

***AACC and NACB Present***

# **LABORATORY SUPPORT FOR DIABETES TESTING CERTIFICATE PROGRAM**

**An online learning program for laboratory professionals seeking to expand their knowledge and competence in the field of diabetes testing**



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**AACC**



## INTRODUCTION

According to a recent press release from the Centers for Disease Control and Prevention, diabetes now affects nearly 24 million people in the United States, which means that nearly 8 percent of the U.S. population has diabetes. Another 57 million people are thought to have pre-diabetes, a condition that puts people at increased risk for diabetes.

Furthermore, people with diabetes are at higher risk for heart disease, blindness, kidney failure, extremity amputations, and other chronic conditions.

The costs of treating and managing diabetes are tremendous. In a recent cost study published by the American Diabetes Association, the direct costs (medical costs) are estimated to be \$116 billion while indirect costs (disability, lost work, premature death) are estimated at \$58 billion, bringing the total estimated costs to \$174 billion per year.

The clinical laboratory makes significant contributions in the diagnosis and management of diabetes and the complications attributable to diabetes. This certificate program provides a comprehensive review of current theory and practices in the laboratory's support for diabetes testing.

## PROGRAM OVERVIEW

The Laboratory Support for Diabetes Testing Certificate Program is an intermediate to advanced level online learning program for professionals who have a working knowledge of current theory and practice and who wish to improve their competence and skills in the newest principles and techniques in the field of diabetes testing.

The intended audience for this program includes laboratory managers and supervisors; senior clinical laboratory scientists, industry scientists, physicians, and other mid- to senior-level laboratory professionals.

By completing this certificate program, participants will:

- Expand their knowledge and competence in regards to the laboratory's role in diabetes testing
- Become part of a network of colleagues in the field
- Gain leverage towards professional advancement
- Receive a certificate of recognition and continuing education credits

This program provides a convenient and cost-effective means for laboratory professionals to receive the benefits listed above.

## PROGRAM FORMAT

The program consists of eight courses which can be completed

in 1-4 hours each. Most of the courses consist of a Powerpoint presentation accompanied by an audio recording, a required reading assignment, and a case study. All of the courses contain a multiple-choice quiz for which a passing grade must be obtained in order to proceed to the next course.

To receive the Laboratory Support for Diabetes Testing certificate, all eight courses must be successfully completed before the program end date. Continuing education credit is also available.

There are opportunities for interaction with the faculty and other participants using the program's dedicated listserv.

## TECHNICAL REQUIREMENTS

**Internet Access and AdobeFlash Player 9.0:** You must have Internet access and Internet browser software with Adobe Flash Player version 9.0 or higher installed on your computer to view the e-learning materials in this course. You may test your browser or update your browser software at the following link: <http://www.macromedia.com/software/flash/about/> Check our website for updated technical requirements.

**Audio Speakers:** You will need speakers attached to your computer to hear the audio files associated with some of the course materials.

**Screen resolution:** For best viewing, your screen resolution should be 1024 x 768 or higher.

## PROGRAM SCHEDULE

**Laboratory Support for Diabetes Testing Certificate**

**Program Dates:** October 1, 2009 – August 31, 2010

**Open Enrollment:** August 1, 2009 – May 31, 2010

**Fee:** \$200.00 AACC Member; \$400.00 Non-member

**PID:** 5691

## COURSE DESCRIPTIONS

The courses have been developed by several recognized experts, thereby ensuring that the contents are of high quality and representative of the current practices.

**Faculty:**

- William Winter, MD, **Program Director**, *University of Florida College of Medicine, Gainesville, FL*

**Contributing Faculty:**

- Randie Little, PhD, *University of Missouri School of Medicine, Columbia, MO*

- James Nichols, PhD, *Baystate Health, Springfield, MA and Tufts University School of Medicine, Boston, MA*
- Desmond Schatz, MD, *University of Florida College of Medicine, Gainesville, FL*

The following courses make up this program:

**Definition of diabetes:** As an introduction, this course provides the learner with a review of the definition of diabetes mellitus and the pathophysiology associated with this family of disorders.

- Definition of diabetes mellitus
- Complications that characterize this family of disorders
- Role of beta cells in controlling insulin secretion
- Targets and effects of insulin action
- Consequences of decreased insulin action

**Classification and etiologies of diabetes:** This course presents the learner with detailed information on the classification and etiologies of the four subtypes of diabetes mellitus, followed by an in-depth comparison between Type 1 and Type 2 diabetes mellitus

- Classification of the four subtypes of diabetes mellitus
- Pathophysiology and etiology of each subtype
- Comparisons between Type 1 and Type 2 diabetes mellitus

**Clinical and biochemical diagnosis of diabetes:** This course presents the learner with information on the clinical and biochemical means of diagnosing diabetes, including the latest recommendations on screening for diabetes

- Importance of early diagnosis of diabetes
- Role of glucose testing in diagnosing diabetes
- Recommendations for diabetes screening

**Laboratory evaluation of long-term glucose control:**

This course presents the learner with information on glycated hemoglobin (HbA1c), including its definition, available measurement methods, reporting recommendations by various programs (NGSP, IFCC, eAG), and its potential as a diagnostic test for diabetes.

- Definition of glycated hemoglobin (HbA1c) and methods for measuring HbA1c
- Recommendations by various programs (NGSP, IFCC, eAG) on the reporting of HbA1c
- Potential use of HbA1c measurement for diagnosing diabetes

**Laboratory evaluation of renal function in diabetes:**

This course presents the learner with information on the renal and urinary tract diseases that can affect people with diabetes and the tests used to assess these diseases.

- Potential renal complications of diabetes and their pathophysiology

- Definition, epidemiology, and pathophysiology of diabetic nephropathy
- Use of urine albumin testing for assessing diabetic nephropathy
- Methods for measuring urine albumin
- Recommendations for microalbuminuria testing

**Evaluation of ketosis in diabetes:** This course presents the learner with information on diabetic ketoacidosis (DKA) and its effects on the body's systems. The ways in which DKA is monitored and treated are also discussed.

- Definition, etiology, and pathophysiology of diabetic ketoacidosis (DKA)
- Relationship of DKA and shock and the consequences of their effects
- Tests to assess and monitor DKA
- Definition of hyperglycemic non-ketotic coma and its similarities and differences with DKA

**Point-of-care testing in diabetes:** This course provides the learner with information on point-of-care testing methods of measuring glucose and hemoglobin A1c, and their strengths and limitations in the management of diabetes.

- Measurement of glucose and hemoglobin A1c using point-of-testing technology
- Quality control issues with point-of-care testing
- Strengths and limitations of point-of-care testing methods in managing diabetes

**Clinical management of diabetes:** This course provides the learner with information on the methods of therapy, treatment, and monitoring of type 1 and type 2 diabetes mellitus.

- Therapies for type 1 and type 2 diabetes mellitus
- Methods for monitoring type 1 and 2 diabetes mellitus
- Forms of treatment for type 1 and type 2 mellitus and their effects

## ACCREDITATION

Category 1 ACCENT® credit is offered for these courses. AACC is an approved provider of continuing education for clinical laboratory scientists in the states of California, Florida, Louisiana, Montana, Nevada, North Dakota, Rhode Island, and West Virginia.

## CANCELLATION POLICY

Cancellations and refunds are not available for online courses.