

# Emerging GLP-1 Therapies for Type 2 Diabetes

## A Supplement to *Diabetes, Obesity and Metabolism*

### Term of Approval

Release Date: July 2008

Expiration Date: July 31, 2009

### Program Overview/Introduction

The past 80 years have dramatically changed the way type 2 diabetes mellitus is understood and managed. The current increase in awareness of the disease and the corresponding wave of novel treatment options have resulted in a vast arsenal of available type 2 diabetes therapies. Among these are newly discovered incretin-derived therapies, including dipeptidyl peptidase (DPP)-4 inhibitors (incretin enhancers) and glucagon-like peptide (GLP)-1 receptor agonists (incretin mimetics). Recent attention has focused on incretin-derived agents, which act through GLP-1 or its receptor, and several such agents are currently on the market or in late-stage clinical development. Examples include GLP-1 agonists and DPP-4 inhibitors, both of which show exciting potential to address the course of type 2 diabetes disease progression—and possibly even redefine its natural history—by addressing the *core defect* of the disease:  $\beta$ -cell decline. This special CME supplement to *Diabetes, Obesity and Metabolism* gathers together, for the first time in one place, the developmental and emerging science and key clinical data underlying the importance of incretin-derived therapies.

### Intended Audience

This activity was developed for diabetologists, endocrinologists, and related diabetes specialists, involved in diabetes care.

### Learning Objectives

At the conclusion of this activity, the participant should be able to:

- Discuss the pathophysiology and pharmacology of human GLP-1 agonists
- State how GLP-1 therapies restore cell function in the pancreas
- Discuss recent clinical outcomes with human GLP-1 agonists in patients with type 2 diabetes mellitus
- Identify the appropriate use of human GLP-1 in the management of patients with type 2 diabetes mellitus

### Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the Institute for Medical and Nursing Education (IMNE) and International Medical Press (IMP). IMNE is accredited by the ACCME to provide continuing medical education for physicians.

### Credit Designation Statement

IMNE designates this educational activity for a maximum of 4.0 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should only claim credit commensurate with the extent of their participation in the activity.

### Disclosures

In compliance with the ACCME, it is the policy of IMNE and IMP to ensure fair balance, independence, objectivity, and scientific rigor in all programming. All individuals involved in content development (eg, CME provider unit staff, faculty, and editorial staff) are expected to disclose any significant financial relationships with commercial interests **within the past 12 months**. IMNE also requires that faculty identify and reference off-label product or investigational use of pharmaceutical and medical device products.

In accordance with the ACCME Standards for Commercial Support, parallel documents from other accrediting bodies, and IMNE policy, identification and resolution of conflict has been made in the form of external peer review of educational content. The following disclosures have been made:

### FACULTY DISCLOSURE

Alan J. Garber, MD, PhD

*Speakers Bureau:* Novo Nordisk, Inc.

*Advisor/Consultant:* Novo Nordisk, Inc.

*Honoraria:* Novo Nordisk, Inc.

Dr Garber has disclosed that he anticipates discussing investigational uses of exenatide LAR, liraglutide, vildagliptin, saxagliptin, and alogliptin in this educational activity.

**Michael A. Nauck, MD, PhD**

*Advisor/Consultant:* AstraZeneca; Amylin Pharmaceuticals; Eli Lilly and Company; GlaxoSmithKline; Novartis; Novo Nordisk, Inc.; Merck, Sharp & Dohme; Takeda Pharmaceuticals

*Research:* Amylin Pharmaceuticals; Berlin-Chemie; Merck, Sharp & Dohme; Novartis

Dr Nauck has disclosed that he anticipates discussing unlabeled uses of thiazolidinediones (TZDs), orlistat, and metformin in this educational activity.

Dr Nauck has disclosed that he does not anticipate discussing investigational uses of pharmaceutical products in this educational activity.

**Jens J. Holst, MD, PhD**

*Speakers Bureau:* Merck, Sharp & Dohme

*Consultant:* Merck, Sharpe & Dohme; Novo Nordisk, Inc.

Dr Holst has disclosed that he does not anticipate discussing unlabeled or investigational uses of pharmaceutical products in this educational activity.

**CME PROVIDER AND EDUCATIONAL PARTNER STAFF DISCLOSURE****Joelle Escoffery, PhD**

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Disclosure: None

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**Disclaimer**

This activity is designed for healthcare professionals for educational purposes. Information and opinions offered by the faculty/presenters represent their own viewpoints. Conclusions drawn by the participants should be derived from careful consideration of all available scientific information.

While IMNE makes every effort to have accurate information presented, no warranty, expressed or implied, is offered. Participants should use their clinical judgment, knowledge, experience, and diagnostic decision-making before applying any information, whether provided here or by others, for any professional use.

**Commercial Support Acknowledgement**

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**Method of Obtaining CME Credit**

CME certificates will be issued to participants after receipt of the CME demographic and evaluation form. Please allow 4 to 6 weeks for processing.