Perioperative and Critical Illness Dysglycemia—Controlling the Iceberg

Mark T. Keegan, M.D.,¹ Michael E. Goldberg, M.D.,² Marc C. Torjman, Ph.D.,² and Douglas B. Coursin, M.D.³

Abstract

Patients with dysglycemia related to known or unrecognized diabetes, stress hyperglycemia, or hypoglycemia in the presence or absence of exogenous insulin routinely require care during the perioperative period or critical illness. Recent single and multicenter studies, a large multinational study, and three meta-analyses evaluated the safety of routine tight glycemic control (80–110 mg/dl) in critically ill adults. Results led to a call for more modest treatment goals (initiation of insulin at a blood glucose >180 mg/dl with a goal of ~150 mg/dl). In this symposium, an international group of multidisciplinary experts discusses the role of tight glycemic control, glucose measurement technique and its accuracy, glucose variability, hypoglycemia, and innovative methods to facilitate glucose homeostasis in this heterogeneous patient population.

J Diabetes Sci Technol 2009;3(6):1288-1291

Author Affiliations: ¹Mayo Clinic, Rochester, Minnesota; ²Cooper University Hospital and the Robert Wood Johnson Medical School–University of Medicine and Dentistry of New Jersey, Camden, New Jersey; and ³University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Abbreviations: (ICU) intensive care unit, (NICE-SUGAR) Normoglycemia in Intensive Care Evaluation and Survival Using Glucose Algorithm Regulation, (T2DM) type 2 diabetes mellitus

Keywords: critically ill, dysglycemia, glucose measurement, guidelines, hospitalized patients, hypoglycemia, stress-induced hyperglycemia, type 2 diabetes mellitus

Corresponding Author: Douglas B. Coursin, M.D., Professor of Anesthesiology and Internal Medicine, University of Wisconsin School of Medicine and Public Health, B6/319 UW CSC, Madison, WI 53792-3272; email address <u>dcoursin@wisc.edu</u>