

Guidelines for Application of Continuous Subcutaneous Insulin Infusion (Insulin Pump) Therapy in the Perioperative Period

Mary E. Boyle, C.N.P., C.D.E.,¹ Karen M. Seifert, M.S.N., C.D.E.,² Karen A. Beer, P.A., C.D.E.,¹
Heidi A. Apsey, N.P.,³ Adrienne A. Nassar, M.D.,⁴ Stephanie D. Littman, R.N.,⁵
Janice M. Magallanez, R.N.,⁵ Richard T. Schlunkert, M.D.,³ Joshua D. Stearns, M.D.,⁶
Michael J. Hovan, M.D.,⁷ and Curtiss B. Cook, M.D.¹

Abstract

Case reports indicate that diabetes patients receiving outpatient insulin pump therapy have been allowed to continue treatment during surgical procedures. Although allowed during surgery, there is actually little information in the medical literature on how to manage patients receiving insulin pump therapy during a planned surgical procedure. A multidisciplinary work group reviewed current information regarding the use of insulin pumps in the perioperative period. Although the work group identified safety issues specific to surgical scenarios, it believed that with the use of standardized guidelines and a checklist, continuation of insulin pump therapy during the perioperative period is feasible. A sample set of protocols have been developed and are summarized. A policy outlining clear procedures should be established at the institutional level to guide physicians and other staff if the devices are to be employed during the perioperative period. Additional clinical experience with the technology in surgical scenarios is needed, and consensus should be developed for insulin pump use in the perioperative phases of care.

J Diabetes Sci Technol 2012;6(1):184-190

Author Affiliations: ¹Division of Endocrinology, Mayo Clinic, Scottsdale, Arizona; ²Clinical and Patient Education, Mayo Clinic, Scottsdale, Arizona; ³Department of Surgery, Mayo Clinic, Scottsdale, Arizona; ⁴Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona; ⁵Division of Quality Management Services, Mayo Clinic, Scottsdale, Arizona; ⁶Department of Anesthesiology, Mayo Clinic, Scottsdale, Arizona; and ⁷Department of Family Medicine, Mayo Clinic, Scottsdale, Arizona

Abbreviations: (CSII) continuous subcutaneous insulin infusion, (PACU) postanesthesia care unit

Keywords: diabetes mellitus, insulin pump, perioperative care

Corresponding Author: Curtiss B. Cook, M.D., Division of Endocrinology, Mayo Clinic, 13400 E. Shea Blvd., Scottsdale, AZ 85259; email address cook.curtiss@mayo.edu