



RESPONSE TO COMMENT ON UMPIERREZ AND KLONOFF

## Diabetes Technology Update: Use of Insulin Pumps and Continuous Glucose Monitoring in the Hospital. *Diabetes Care* 2018;41:1579–1589

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We thank Grammes et al. (1) for pointing out the importance of respect for autonomy and the patient's perspective on the use of insulin pumps during hospitalization. The principle of respect for autonomy enables patients to make their own decisions about which health care interventions they will or will not receive. Offering options and allowing patients to make voluntary choices about health care interventions have been shown to enhance patient satisfaction and good patient-professional relationships. Asking a patient to remove their insulin pump device could potentially contribute to decreased patient satisfaction given the perceived loss of control over self-management. Patients may become frustrated if asked to transfer their diabetes management to hospital staff who may not be as knowledgeable about pump use (2). In two studies in the U.S., 78% and 86% of patients reported that they were satisfied when allowed to continue use of continuous subcutaneous glucose infusion in a hospital with an inpatient insulin pump protocol (3,4).

Self-management of an insulin pump is consistent with current practice guidelines. The American Diabetes Association *Standards of Medical Care in Diabetes—2019* states that diabetes self-management in the hospital may be appropriate for select patients who

successfully conduct self-management of diabetes at home, have the cognitive and physical skills needed to successfully self-administer insulin, and perform self-monitoring of blood glucose (5). If insulin pump use is to be continued, the patient, nursing staff, and physician must agree that patient self-management is appropriate (2). A written hospital policy on how to safely manage patients is needed to identify who can safely be allowed to continue on the pump (5).

Hospital providers need to assess the patient's clinical status and knowledge of pump use, as well as resources available at their institution, before allowing the use of insulin pump. Patients must be fully alert, able to access their pump settings and adjust insulin doses, and willing to self-manage the pump. Several studies have shown significant gaps in knowledge regarding inpatient diabetes care including insulin pump use among medical students, resident physicians, and hospitalists. Therefore, hospitals should provide personnel trained on different insulin pump devices who are capable of recognizing pump malfunctions and knowledgeable about contraindications to pump use during hospitalization. In the absence of such key personnel, patient safety must be addressed with reevaluation of the need to discontinue the pump and

switch to multiple doses of subcutaneous insulin.

We agree with Grammes et al. (1) that it is important to respect an individual patient's needs for autonomy to continue self-management of pump therapy. In some situations, an educated insulin pump patient focused on their own care can manage their blood glucose levels better than hospital staff can when diabetes care is poorly coordinated. However, optimal inpatient pump self-management requires clear policies and procedures as well as a health care team that is experienced with insulin pumps to maximize safety and comply with existing regulations related to self-management of medications.

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