

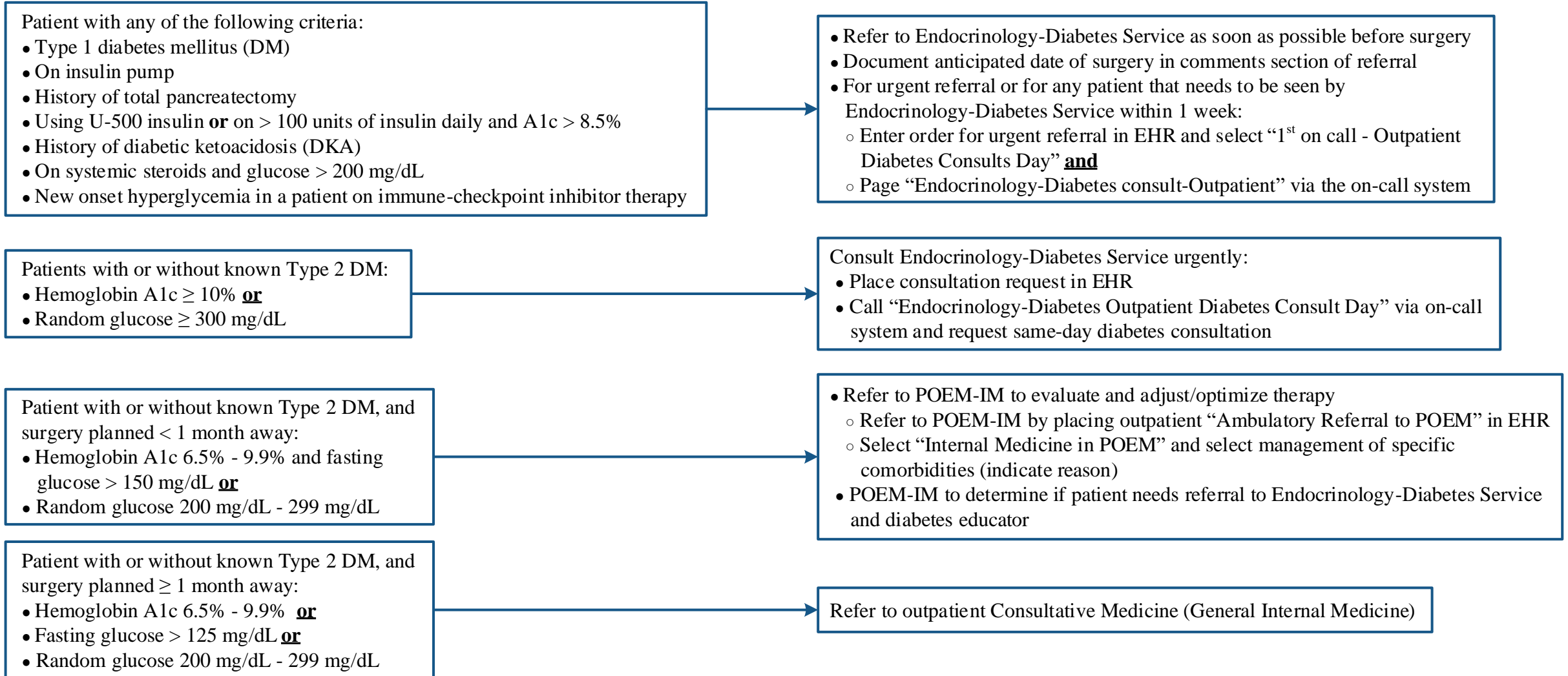
Adult Peri-Operative Glucose Management

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

Guidelines for Pre-operative Referrals

PRESENTATION

DISPOSITION



EHR = electronic health record
 POEM = Peri-Operative Evaluation and Management
 POEM-IM = Peri-Operative Evaluation and Management-Internal Medicine

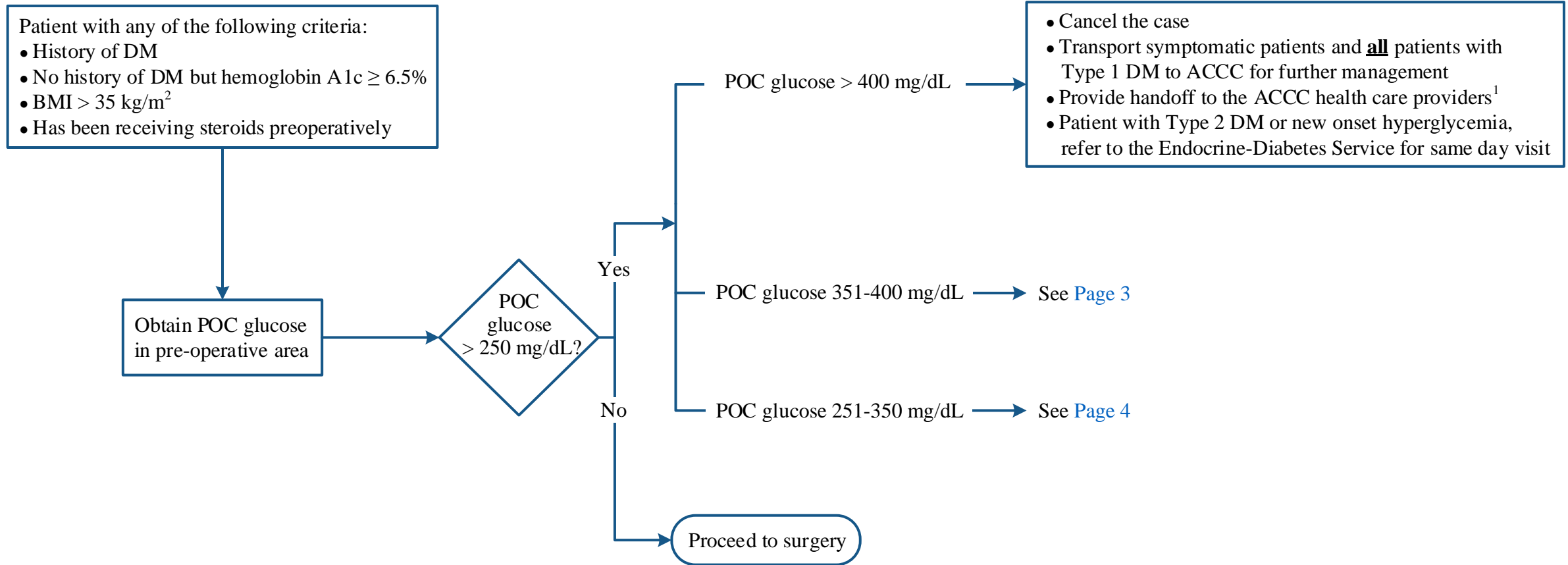
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Measurement and Management of Hyperglycemia in the Pre-operative Area

PRESENTATION

DISPOSITION



BMI = body mass index
 POC = point of care
 ACCC = Acute Cancer Care Center

¹ Refer to MD Anderson Institutional Policy #CLN0513; Hand-Off Communication Policy

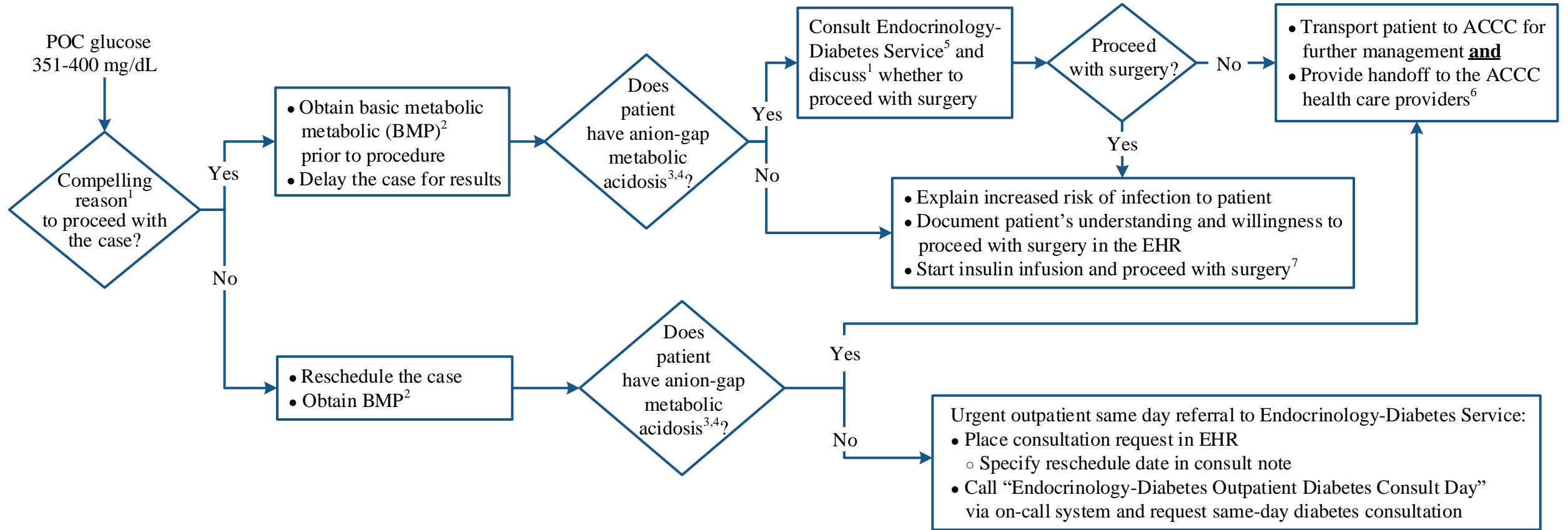
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Measurement and Management of Hyperglycemia in the Pre-operative Area

PRESENTATION

DISPOSITION



¹ Joint discussion to be held between anesthesia and surgical teams regarding medical urgency of the planned procedure

² i-STAT or sent to lab

³ Anion-gap metabolic acidosis defined as bicarbonate < 18 mEq/L **and** anion gap > 12 [anion gap = sodium – (chloride + bicarbonate)]

⁴ If anion-gap metabolic acidosis based on i-STAT results, send STAT basic metabolic panel (BMP) to lab for confirmation

⁵ Consult the inpatient Endocrinology-Diabetes Team A by the on-call system with direct provider to provider communication

⁶ Refer to MD Anderson Institutional Policy #CLN0513; Hand-Off Communication Policy

⁷ Post-operative management:

- For patients admitted to inpatient care
 - Initiate post-operative glucose management (see Inpatient Hyperglycemia - Adult algorithm)
 - Consult inpatient Endocrinology-Diabetes Service
- Ambulatory surgery patients should be referred to primary care provider or outpatient Endocrinology-Diabetes Service as indicated

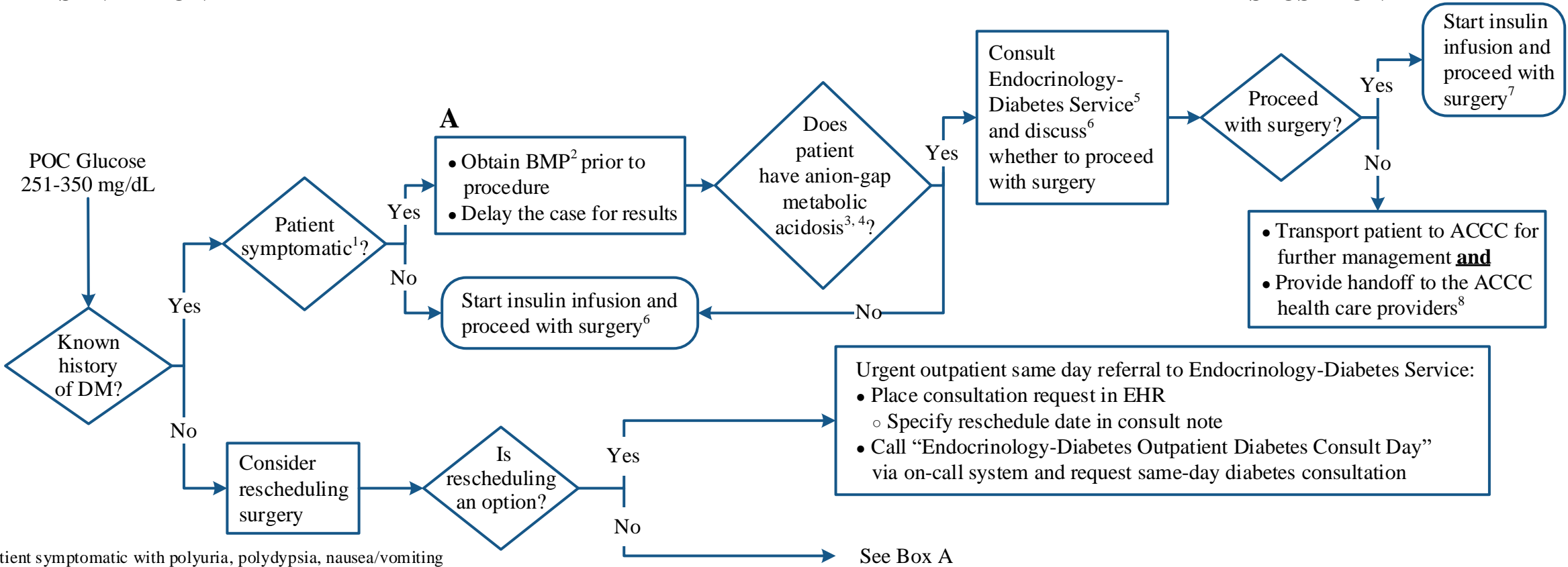
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Measurement and Management of Hyperglycemia in the Pre-operative Area

PRESENTATION

DISPOSITION



¹ Patient symptomatic with polyuria, polydipsia, nausea/vomiting

² i-STAT or sent to lab

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SUGGESTED READINGS

- Kang, Z. Q., Hou, J. L., & Zhai, X. J. (2018). Effects of perioperative tight glycemic control on postoperative outcomes: A meta-analysis. *Endocrine Connections*, 7(12), R316-R327. doi:10.1530/EC-18-0231
- King, J. T., Goulet, J. L., Perkal, M. F., & Rosenthal, R. A. (2011). Glycemic control and infections in patients with diabetes undergoing noncardiac surgery. *Annals of Surgery*, 253(1), 158-165. doi:10.1097/SLA.0b013e3181f9bb3a
- Michaelian, N., Joshi, R., Gillman, E., Kratz, R., Helmuth, A., Zimmerman, K., ... Houseal, L. (2011). Perioperative glycemic control: Use of a hospital-wide protocol to safely improve hyperglycemia. *Journal of PeriAnesthesia Nursing*, 26(4), 242-251. doi:10.1016/j.jopan.2011.04.068
- Vongsumran, N., Buranapin, S., & Manosroi, W. (2020). Standardized glycemic management versus conventional glycemic management and postoperative outcomes in type 2 diabetes patients undergoing elective surgery. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, 2020(13), 2593-2601. doi:10.2147/DMSO.S262444

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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Peri-operative Glucose Management experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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