

Perioperative glycemic control is recommended.

Class (Strength) of Recommendation	Class I (Strong)
Level (Quality) of Evidence	Level B-R (Randomized)

An insulin infusion is recommended to treat hyperglycemia in all patients postoperatively.

Class (Strength) of Recommendation	Class IIa (Moderate)
Level (Quality) of Evidence	Level B-NR (Non-randomized)

Main Points

- Perioperative hyperglycemia has been associated with poor clinical outcomes, likely mediated via direct glucose toxicity, increased oxidative stress, inflammation, and induction of a prothrombotic state.
- Insulin infusion is likely the most effective way to maintain glycemic control.
- Perioperative glycemic control is recommended based on randomized data from studies not specific to cardiac surgery and on quality observational studies.
- Future studies are needed in the cardiac surgical population.

Key References

1. van den Berghe G, Wouters P, Weekers F, et al. Intensive insulin therapy in critically ill patients. The New England journal of medicine. 2001;345:1359-1367.
2. Moghissi ES, Korytkowski MT, DiNardo M, et al. American Association of Clinical Endocrinologists and American Diabetes Association consensus statement on inpatient glycemic control. Diabetes Care. 2009;32:1119-1131.
3. Lazar HL, Chipkin SR, Fitzgerald CA, Bao Y, Cabral H, Apstein CS. Tight glycemic control in diabetic coronary artery bypass graft patients improves perioperative outcomes and decreases recurrent ischemic events. Circulation. 2004;109:1497-1502.
4. Furnary AP, Wu Y. Eliminating the diabetic disadvantage: the Portland Diabetic Project. Seminars in thoracic and cardiovascular surgery. 2006;18:302-308. 43

5. Gandhi GY, Nuttall GA, Abel MD, et al. Intensive intraoperative insulin therapy versus conventional glucose management during cardiac surgery: a randomized trial. *Annals of internal medicine*. 2007;146:233-243.

Educational materials produced by the Society for Enhanced Recovery After Cardiac Surgery (ERAS® Cardiac) may be considered Open Access. Non-commercial use of ERAS® Cardiac educational materials, including images, audio, and video, in whole or in part, is permitted with the following conditions: 1) the content is not altered, 2) the listed authors of the content and ERAS® Cardiac are appropriately referenced, and 3) a URL address or hyperlink to the original material or the main web site [<https://www.erascardiac.org/>] is included in the reproduction.