

Surgical Patient Optimization Guideline Checklist

Health Delivery Systems Level 2



The current state of the issue

Anemia and poor glycemic control are key modifiable risk factors that worsen perioperative outcomes in those undergoing major surgery. Both preoperative anemia and perioperative hyperglycemia are associated with longer hospital stays^[i], increased costs, higher morbidity and mortality^{[ii],[iii]}, and worse recovery. Even mild anemia can affect 30-day outcomes, and perioperative glucose levels predict short-term mortality^[iv], while evidence shows hyperglycemia impacts non-diabetic patients more negatively than those with diabetes. In Washington state, there is significant variation in practices regarding anemia management and glycemic optimization in patients with and without diabetes.

General

- ☐ Include optimization of glycemic control and anemia in preoperative patient-facing materials.

Preoperative Glycemic Optimization

- ☐ Protocolize hyperglycemia treatment for patients with and without diabetes in all surgical settings based on most updated guidelines.
- ☐ Protocols for clinicians should include the following at a minimum:
 - ☐ Screening for diabetes and anemia in preoperative evaluation
 - ☐ Identifying and treating iron deficiency anemia
 - ☐ Day of surgery blood glucose screening
 - ☐ Intraoperative target glycemic control ranges based on surgery risk stratification and patient condition (e.g., most commonly <180mg/dL)
 - ☐ Postoperative workflow for patients who receive insulin intraoperatively, including threshold to consider inpatient admission to treat glycemic control
 - ☐ Standardized discharge steps for patients with new intraoperative hyperglycemia/diabetes or anemia
- ☐ Recommendations for post-operative management should include the following, at a minimum:

- ☐ Postoperative workflow for patients who receive insulin intraoperatively, including threshold to consider inpatient admission to treat glycemic control
- ☐ Standardized discharge steps for patients with new intraoperative hyperglycemia or diabetes
- ☐ **Develop capacity to safely utilize intravenous insulin in non-ICU settings**

Perioperative Anemia Control

- ☐ Adopt standardized clinical pathway for identifying anemia and evaluation of underlying cause of anemia, and referral to primary care for ongoing management of anemia

Resources

- The Bree Report on Surgical Patient Optimization is meant to supplement these resources.
 - [Full Bree Report on Surgical Patient Optimization](#)
 - [Implementation Guide on Surgical Patient Optimization](#)
 - [Surgical COAP](#)
 - [Spine COAP](#)
 - [Guidelines - ERAS® Society](#)
 - [Clinical Strategies to Avoid Blood Transfusion](#)

Read the full Bree Report on Surgical Patient Optimizations online by scanning the QR code:



Connect with the Bree Collaborative at bree@qualityhealth.org

References: [1] Schatz C, Plötz W, Beckmann J, Bredow K, Leidl R, Buschner P. Associations of preoperative anemia and postoperative hemoglobin values with hospital costs in total knee arthroplasty (TKA). Arch Orthop Trauma Surg. 2023 Nov;143(11):6741-6751. [2] Musallam KM, et al. . Preoperative anaemia and postoperative outcomes in non-cardiac surgery: a retrospective cohort study. Lancet. 2011 Oct 15;378(9800):1396-407 [3] Myles, P. S., Richards, T., Klein, A., Wood, E. M., Wallace, S., Shulman, M. A., Martin, C., Bellomo, R., Corcoran, T. B., Peyton, P. J., Story, D. A., Leslie, K., Forbes, A., & RELIEF Trial Investigators (2022). Postoperative anaemia and patient-centred outcomes after major abdominal surgery: a retrospective cohort study. *British journal of anaesthesia*, 129(3), 346–354. <https://doi.org/10.1016/j.bja.2022.06.014> [4] van den Boom, W., Schroeder, R. A., Manning, M. W., Setji, T. L., Fiestan, G. O., & Dunson, D. B. (2018). Effect of A1C and Glucose on Postoperative Mortality in Noncardiac and Cardiac Surgeries. *Diabetes care*, 41(4), 782–788.