

INSTRUCTIONS

Selected Best Practices and Suggestions for Improvement

What is this tool? The purpose of this tool is to provide:

- Detailed description of best practices, including supporting evidence, suggestions for improvement, prescribed process steps, and additional resources.
- Sufficient information to complete a Gap Analysis (Tool D.5), make a decision to implement (or not to implement) a process, and develop an Implementation Plan (Tool D.6).

These tools provide information on evidence-based best practices when available, as well as information gathered from real-world experience in working with hospitals. These tools are not meant to replace validated guidelines. Rather, these documents are meant to supplement various improvement process projects related to the AHRQ Quality Indicators.

The information used to populate these documents is derived from professional association guidelines, the research literature, and experience and lessons learned from hospitals' work on previous AHRQ Quality Indicator implementation efforts. The references cited were not derived from a full systematic evidence-based literature review. Rather, the list includes more well-known research and publications on the subject, where available.

The information contained in these documents should be used to review and compare against your organization's current processes to determine where gaps may exist. As always, the final decision regarding whether to implement the guidance provided in this document should be made by a multidisciplinary quality improvement team in your hospital and should be based on information specific to your organization.

Who are the target audiences? The primary audiences include quality improvement leaders, clinical leaders, and multidisciplinary frontline staff members.

How can the tool help you? The Best Practices and Suggestions for Improvement Tool details each of the following components of a best practice and its implementation:

- Indicator Specifications
- Literature Support
- Best Processes/Systems of Care
- Additional Resources

How does this tool relate to others? The Best Practices and Suggestions for Improvement Tools are used to prepare the Gap Analysis (Tool D.5) and the Implementation Plan (Tool D.6).

Instruction Steps

1. See instructions for Gap Analysis (Tool D.5).

2. Use the appropriate Selected Best Practices and Suggestions for Improvement Tool to populate the Gap Analysis (Tool D.5).

Selected Best Practices and Suggestions for Improvement

Patient Safety Indicator Specifications

PSI 9: Postoperative Hemorrhage or Hematoma

Numerator: Discharges among cases meeting the inclusion and exclusion rules for the denominator with the following:

- International Classification of Diseases (ICD)-9 code for postoperative hemorrhage or postoperative hematoma in any secondary diagnosis field
AND
- ICD-9 code for postoperative control of hemorrhage or for drainage of hematoma procedure code.

Denominator: All surgical discharges 18 years and older defined by specific diagnosis-related groups (DRGs) or Medicare Severity (MS)-DRGs and an ICD-9 code for an operating room procedure.

Exclude cases:

- With principal diagnosis of postoperative hemorrhage or postoperative hematoma or secondary diagnosis present on admission.
- Where the only operating room procedure is postoperative control of hemorrhage or drainage of hematoma.
- Where a procedure for postoperative control of hemorrhage or drainage of hematoma occurs before the first operating room procedure.

Note: If day of procedure is not available in the input data file, the rate may be slightly lower than if the information were available.

- Major diagnostic category (MDC) 14 (Pregnancy, Childbirth, and Puerperium).
- With missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing), or principal diagnosis (DX1=missing).

Reference: AHRQ Patient Safety Indicators Technical Specifications, Version 4.3, August 2011.

Recommended Practice	Details of Recommended Practice
Management of Blood Loss	Literature suggests that proper management of blood loss, including frequent dressing checks, is imperative to management of postoperative hemorrhage and hematoma. ²
Medication Management	Determine if and when discontinuation of antiplatelet/anticoagulant medication prior to the procedure or surgery is appropriate. ¹⁻³

Literature Support

Management of Blood Loss

“Postoperative bleeding is a risk of all surgical procedures. The best way to reduce the risk of hemorrhage is to identify and correct potential causes of coagulopathy preoperatively as well as postoperatively.”

“The results of physical examination should be integrated with all other data sources. Tachycardia, diminished cardiac output, dropping central venous pressure, reductions in urine output, and abnormal capillary refill pattern are all suggestive of bleeding, as are flank bruises and swelling of the extremities with discoloration.”

Dagi TF. The management of postoperative bleeding. Surg Clin N Am 2005;85(6):1191–213.

Medication Management

“Discussion with the patient and his or her prescribing physician before the procedure is invaluable to help determine whether antithrombotic agents should be stopped or adjusted in any particular patient.”

ASGEⁱ Standards of Practice Committee, Anderson MA, Ben-Menachem T, et al. Management of antithrombotic agents for endoscopic procedures. *Gastrointest Endosc* 2009;70:1060-70.

“Thus, on the basis of the present study, we recommend that clinicians weigh the risks and benefits of late ASAⁱⁱ use on the basis of the patient’s risk profile before CABG.”

Jacob M, Smedira N, Blackstone E, et al. Effect of timing of chronic preoperative aspirin discontinuation on morbidity and mortality in coronary artery bypass surgery. *Circulation* 2011;123(6):577–83.

Best Processes/Systems of Care

Introduction: Essential First Steps

- Engage key preoperative/perioperative/procedure personnel, including nurses, physicians, and surgical technicians, and representatives from the quality improvement department to develop evidence-based protocols for care of the patient preoperatively, intraoperatively, and postoperatively to prevent postoperative hemorrhage or hematoma.
- The above team:
 - Identifies the purpose, goals, and scope and defines the target population for this guideline.
 - Analyzes problems with guidelines compliance, identifies opportunities for improvement, and communicates best practices to frontline teams.
 - Monitors measures that would indicate if changes are leading to improvement, identifies process and outcome metrics, and tracks performance using these metrics.
 - Determines appropriate facility resources for effective and permanent adoption of practices.

Recommended Practice: Management of Blood Loss

- Interventions include applying pressure to the site and being prepared to return the patient to the operating room:
 - Consider developing a standard set of criteria or early warning signs (see below) that will be used to trigger notification of the responsible surgeon of possible postoperative bleeding.
 - Incorporate all components of the criteria/early warning signs into a tool designed to provide standardized documentation of all pertinent details of the event. This tool will provide the data to track patient characteristics, processes, and outcomes for continuous quality improvement.
 - Establish a policy to empower nurses to rapidly escalate up the chain of authority to reach the responsible surgeon (limit time to 5-minute wait after initial page before move to notify next higher level of authority).
 - Provide educational sessions to all clinical staff on the pilot units (nurses, residents, attending physicians, respiratory therapists, patient care technicians, certified nursing assistants, etc.) in the use of the early warning signs criteria, required documentation, and policy for rapid escalation up the chain of authority to notify responsible surgeon.
- Common signs of hemorrhage can include but are not limited to²:
 - Restlessness and anxiety.
 - Frank bleeding and bruising.
 - Tachycardia.
 - Diminished cardiac output and dropping central venous pressure.
 - Reductions in urine output.
 - Swelling and discoloration of the extremities.

Recommended Practice: Medication Management

ⁱ ASGE = American Society for Gastrointestinal Endoscopy.

ⁱⁱ ASA = acetylsalicylic acid.

- Develop a process and protocol for determining if discontinuation of antiplatelet/anticoagulant medications prior to procedure or surgery is appropriate.²
 - Practice recommendation should be selected based on individual patient risk factors and current evidence-based guidelines for a particular surgery.^{1, 3–5}
 - Obtain a thorough history of medication use prior to surgery. The history must specifically address the use of over-the-counter and prescribed medications.
 - Document this information in the patient’s medical record so that it is available to all care providers.

Educational Recommendation

- Plan and provide education on protocols to physician, nursing, and all other staff involved in operative, procedural cases and the care of patients postoperatively. Education should occur upon hire, annually, and when this protocol is added to job responsibilities.

Effectiveness of Action Items

- Track compliance with elements of the established protocol by using checklists, appropriate documentation, etc.
- Evaluate effectiveness of new processes, determine gaps, modify processes, as needed and reimplement practices.
- Mandate that all personnel follow the protocols and practices developed by the team to prevent postoperative hemorrhage and hematoma and develop a plan of action for staff in noncompliance.
- Provide feedback to all stakeholders (physician, nursing, and ancillary staff; senior medical staff; and executive medical and administrative leadership) on level of compliance with process.
- Conduct surveillance and determine prevalence of postoperative hemorrhage to evaluate outcomes of new process.
- Monitor and evaluate performance regularly to sustain improvements achieved.

Additional Resources

- ✓ Systems/Processes
 - [The Merck Manual for Health Care Professionals: Postoperative Care](#)
 - [WHO Surgical Care at the District Hospital 2003: Postoperative Care](#), World Health Organization
- ✓ Policies/Protocols
 - [Recommended Curriculum Guidelines for Family Medicine Residents: Care of the Surgical Patient](#), American Academy of Family Physicians
- ✓ Staff Required
 - Physicians
 - Nursing and nursing assistants
 - Respiratory therapists
 - Transfusion medicine service
- ✓ Communication
 - Systemwide education on policy/protocol of monitoring postoperative patients

Supporting Literature

1. Jacob M, Smedira N, Blackstone E, et al. Effect of timing of chronic preoperative aspirin discontinuation on morbidity and mortality in coronary artery bypass surgery. *Circulation* 2011;123(6):577–83.
2. Dagi TF. The management of postoperative bleeding. *Surg Clin N Am* 2005;85(6):1191–1213.

3. ASGE Standards of Practice Committee, Anderson MA, Ben-Menachem T, et al. Management of antithrombotic agents for endoscopic procedures. *Gastrointest Endosc* 2009;70:1060–70.
4. Guideline on Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty. Rosemont, IL: American Academy of Orthopaedic Surgeons. Available at: http://www.aaos.org/research/guidelines/VTE/VTE_guideline.asp. Accessed September 28, 2011.
5. Hirsh J, Guyatt G, Albers GW, et al. Executive summary: American College of Chest Physicians evidence-based clinical practice guidelines (8th edition). *Chest* 2008;133(6 Suppl):71S-109S.