

****NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE****

Measure Information Form

Measure Set: Surgical Care Improvement Project (SCIP)

Set Measure ID #: SCIP-Inf-3

Set Measure ID #	Performance Measure Name
SCIP-Inf-3a	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Overall Rate
SCIP-Inf-3b*	Prophylactic Antibiotics Discontinued Within 48 Hours After Surgery End Time - CABG
SCIP-Inf-3c*	Prophylactic Antibiotics Discontinued Within 48 Hours After Surgery End Time – Other Cardiac Surgery
SCIP-Inf-3d*	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Hip Arthroplasty
SCIP-Inf-3e*	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Knee Arthroplasty
SCIP-Inf-3f*	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Colon Surgery
SCIP-Inf-3g*	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Hysterectomy
SCIP-Inf-3h*	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Vascular Surgery

*Joint Commission ONLY

Performance Measure Name: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time*

Description: Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time. *The Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic Prophylaxis in Cardiac Surgery (2005) has been published. Because of this new guideline, CMS and JCAHO have revised SCIP-Inf-3 relevant to cardiac surgery (CABG and Other Cardiac Surgery) only. The published STS guideline indicates that there is no reason to extend antibiotics beyond 48 hours for cardiac surgery and very explicitly states that antibiotics should not be extended beyond 48 hours even with tubes and drains in place for cardiac surgery.

Rationale: A goal of prophylaxis with antibiotics is to provide benefit to the patient with as little risk as possible. It is important to maintain therapeutic serum and tissue levels throughout the operation. Intraoperative re-dosing may be needed for long operations. However, administration

of antibiotics for more than a few hours after the incision is closed offers no additional benefit to the surgical patient. Prolonged administration does increase the risk of *Clostridium difficile* infection and the development of antimicrobial resistant pathogens.

Type of Measure: Process

Improvement Noted As: An increase in the rate

Numerator Statement: Number of surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time (48 hours for CABG or Other Cardiac Surgery)

Included Populations: Not Applicable

Excluded Populations: None

Data Elements:

- *Antibiotic Administration Date*
- *Antibiotic Administration Time*
- *Surgery End Date*
- *Surgery End Time*

Denominator Statement: All selected surgical patients with no evidence of prior infection

Included Populations:

- An *ICD-9-CM Principal Procedure Code* of selected surgeries (refer to Appendix A, Table 5.10 for ICD-9-CM codes)
AND
- An *ICD-9-CM Principal Procedure Code* of selected surgeries (refer to Appendix A, Table 5.01-5.08 for ICD-9-CM codes)

Excluded Populations:

- Patients who had a principal diagnosis suggestive of preoperative infectious diseases (refer to Appendix A, Table 5.09 for ICD-9-CM codes)
- Patients who were receiving antibiotics within 24 hours prior to arrival (except colon surgery patients taking oral prophylactic antibiotics)
- Patients who were receiving antibiotics more than 24 hours prior to surgery (except colon surgery patients taking oral prophylactic antibiotics)
- Patients who were diagnosed with and treated for infections within two days (three days for CABG and Other Cardiac Surgery) after *Surgery End Date*
- Patients who did not receive any antibiotics during this hospitalization
- Patients less than 18 years of age
- Patients with physician documented infection prior to surgical procedure of interest
- Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG and Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission

Data Elements:

- *Admission Date*
- *Antibiotic Name*
- *Antibiotic Received*
- *Birthdate*
- *Date of Infection*
- *ICD-9-CM Principal Diagnosis Code*
- *ICD-9-CM Principal Procedure Code*
- *Infection Prior to Anesthesia*
- *Oral Antibiotics*
- *Other Surgeries*
- *Postoperative Infections*
- *Surgery Start Date*
- *Surgical Incision Time*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records.

Data Accuracy: Abstracted antibiotics are those administered from the time of admission through the first 48 hours (72 hours for CABG or Other Cardiac Surgery) after the surgery end time. Refer to Appendix C, Table 2.1, which contains a complete listing of antibiotics.

Measure Analysis Suggestions: Consideration may be given to relating this measure to SCIP-Inf-1 and SCIP-Inf-2 in order to evaluate to which aspects of antibiotic prophylaxis would most benefit from an improvement effort. The process-owners of the timing of discontinuation of antibiotics subsequent to surgery include physicians and their assistants, the post-surgical recovery team, as well as the postoperative nursing unit. By including the appropriate groups involved in the postoperative care process, one can more clearly ascertain where in the process the team may need to focus for improvement.

Sampling: Yes, for additional information see the Sampling Section.

Data Reported As: Overall aggregate rate for all surgeries and stratified rates by data element *ICD-9-CM Principal Procedure Code*, generated from count data reported as a proportion

Selected References:

- Bratzler DW, Houck PM, for the Surgical Infection Prevention Guidelines Writers Group. Antimicrobial prophylaxis for surgery: An advisory statement from the National Surgical Infection Prevention Project. *CID*. 2004;38(15 July):1706-1715.
- Crabtree TD, Pelletier SJ, Gleason TG, et al. Clinical characteristics and antibiotic utilization in surgical patients with *Clostridium difficile*-associated diarrhea. *Am Surg*. 1999;65:507-511.
- Mangram AJ, Horan TC, Pearson ML, et al. Guidelines for prevention of surgical site infection, 1999. *Infect Control Hosp Epidemiol*. 1999;20:247-280.
<http://www.ahrq.gov/clinic/ptsafety/chap20a.htm>
- McDonald M, Grabsch E, Marshall C, et al. Single- versus multiple-dose antimicrobial prophylaxis for major surgery: a systemic review. *Aust N Z J Surg*. 1988;68:388-396.
- Scher KS. Studies on the duration of antibiotic administration for surgical prophylaxis. *Am Surg*. 1997;63:59-62.