

**\*\*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
<b>SCIP-Inf-3a</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Overall Rate
<b>SCIP-Inf-3b</b>	Prophylactic Antibiotics Discontinued Within 48 Hours After Surgery End Time - CABG
<b>SCIP-Inf-3c</b>	Prophylactic Antibiotics Discontinued Within 48 Hours After Surgery End Time – Other Cardiac Surgery
<b>SCIP-Inf-3d</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Hip Arthroplasty
<b>SCIP-Inf-3e</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Knee Arthroplasty
<b>SCIP-Inf-3f</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Colon Surgery
<b>SCIP-Inf-3g</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Hysterectomy
<b>SCIP-Inf-3h</b>	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time - Vascular Surgery

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

**Excluded Populations:**

- Patients who had a principal or admission 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 (3 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 3 days (4 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 procedure of interest occurred prior to date of admission

**Data Elements:**

- *Admission Date*
- *Admission Diagnosis of Infection*
- *Antibiotic Name*
- *Antibiotics During Stay*
- *Antibiotics Prior to Arrival*
- *Birthdate*
- *Date of Infection*
- *Early Antibiotics*
- *ICD-9-CM Other Procedure Codes*
- *ICD-9-CM Principal Diagnosis Code*
- *ICD-9-CM Principal Procedure Code*
- *Infection Prior to Anesthesia*
- *Infection Procedure of Interest*
- *Oral Antibiotics*
- *Other Surgeries*
- *Postoperative Infections*
- *Surgery Performed During Stay*
- *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 arrival 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 *Infection Procedure of Interest*, 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.

### SCIP-Inf-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

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

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

**Variable Key:**

- Patient Age
- Antibiotic Days I
- Antibiotic Days II
- Antibiotic Timing I
- Antibiotic Timing II
- Post Operative Infection Days
- Surgery Days
- Surgery Match













