

NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE**Measure Information Form****Collected For:
CMS Voluntary Only****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

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 *Anesthesia End Time*. The Society of Thoracic Surgeons (STS) Practice Guideline for Antibiotic Prophylaxis in Cardiac Surgery (2006) 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 *Anesthesia End Time* (48 hours for CABG or Other Cardiac Surgery).

Included Populations: Not Applicable

Excluded Populations: None

Data Elements:

- *Anesthesia End Date*
- *Anesthesia End Time*
- *Antibiotic Administration Date*
- *Antibiotic Administration 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 (as defined in Appendix A, Table 5.10 for ICD-9-CM codes)
- AND**
- An *ICD-9-CM Principal Procedure Code* of selected surgeries (as defined in Appendix A, Table 5.01-5.08 for ICD-9-CM codes)

Excluded Populations:

- Patients less than 18 years of age
- Patients who have a Length of Stay greater than 120 days
- Patients whose Principal Procedure was on Table 5.25
- Patients who had a principal diagnosis suggestive of preoperative infectious diseases (as defined in Appendix A, Table 5.09 for ICD-9-CM codes)
- Patients enrolled in clinical trials
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
- Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest
- Patients who expired perioperatively
- Patients who had other procedures requiring general or spinal anesthesia that occurred within three days (four days for CABG or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay
- Patients who received urinary antiseptics only (as defined in Appendix C, Table 3.11)
- Patients with *Reasons to Extend Antibiotics*

- Patients who received antibiotics prior to arrival and did not receive any antibiotics during this hospitalization
- Patients who received ONLY antibiotics with the route unable to be determined (UTD)
- Patients who did not receive any antibiotics within the timeframe 24 hours before *Surgical Incision Date and Time* (i.e., patient did not receive prophylactic antibiotics) through discharge
- Patients who received ALL antibiotics greater than 1440 minutes prior to *Surgical Incision Date and Time*
- Patients who received ALL antibiotics greater than 3 days after *Anesthesia End Date* OR greater than 2 days after *Anesthesia End Date* for Principal Procedures on Tables 5.03-5.08
- Patients who received ALL antibiotics greater than 4320 minutes after *Anesthesia End Time* OR greater than 2880 minutes after *Anesthesia End Time* for Principal Procedures on Tables 5.03-5.08

Data Elements:

- *Admission Date*
- *Anesthesia Start Date*
- *Antibiotic Administration Route*
- *Antibiotic Name*
- *Antibiotic Received*
- *Birthdate*
- *Clinical Trial*
- *Discharge Date*
- *ICD-10-CM Principal Diagnosis Code*
- *ICD-10-PCS Principal Procedure Code*
- *Infection Prior to Anesthesia*
- *Oral Antibiotics*
- *Other Surgeries*
- *Perioperative Death*
- *Reasons to Extend Antibiotics*
- *Surgical Incision Date*
- *Surgical Incision Time*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical record documents. Some hospitals may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunities for improvement at the point of care/service. However, complete documentation includes the principal or other ICD-9-CM diagnosis and procedure codes, which require retrospective data entry.

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 *Anesthesia 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/APNs/PAs, 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, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications 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:

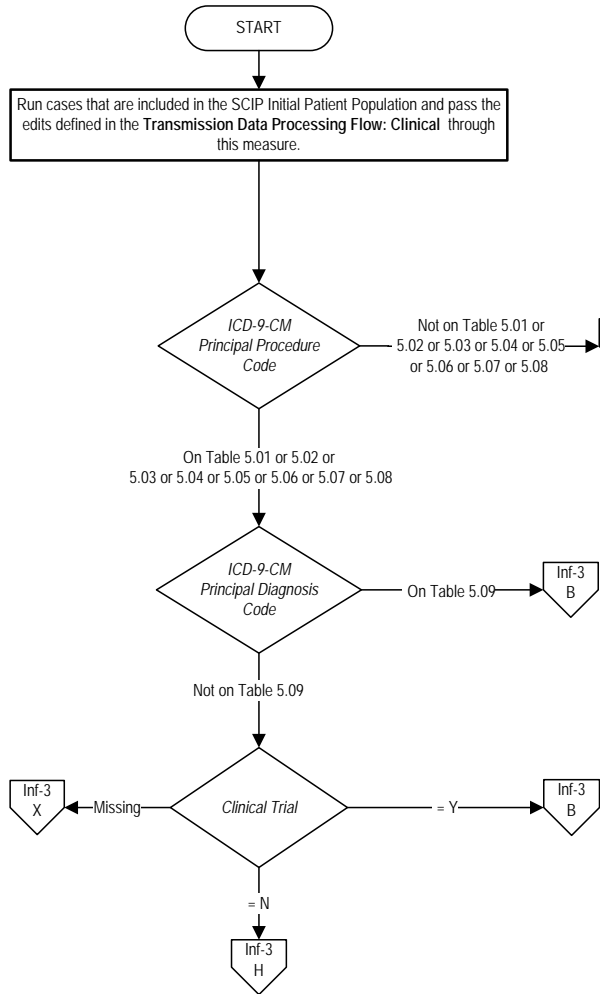
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- Crabtree TD, Pelletier SJ, Gleason TG, et al. Clinical characteristics and antibiotic utilization in surgical patients with *Clostridium difficile*-associated diarrhea. *Am Surg*. 1999;65:507-511.
- Edwards FH, Engelman RM, Houck P, Shahian DM, Bridges CR. The Society of Thoracic Surgeons Practice Guideline Series: Antibiotic prophylaxis in cardiac surgery, Part I: Duration, 2006. *Ann Thoracic Surg* 2006; 81: 397-404.
- Mangram AJ, Horan TC, Pearson ML, et al. Guidelines for prevention of surgical site infection, 1999. *Infect Control Hosp Epidemiol*. 1999;20:247-280.
- 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 *Anesthesia End Time* (48 hours for CABG or Other Cardiac Surgery).

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

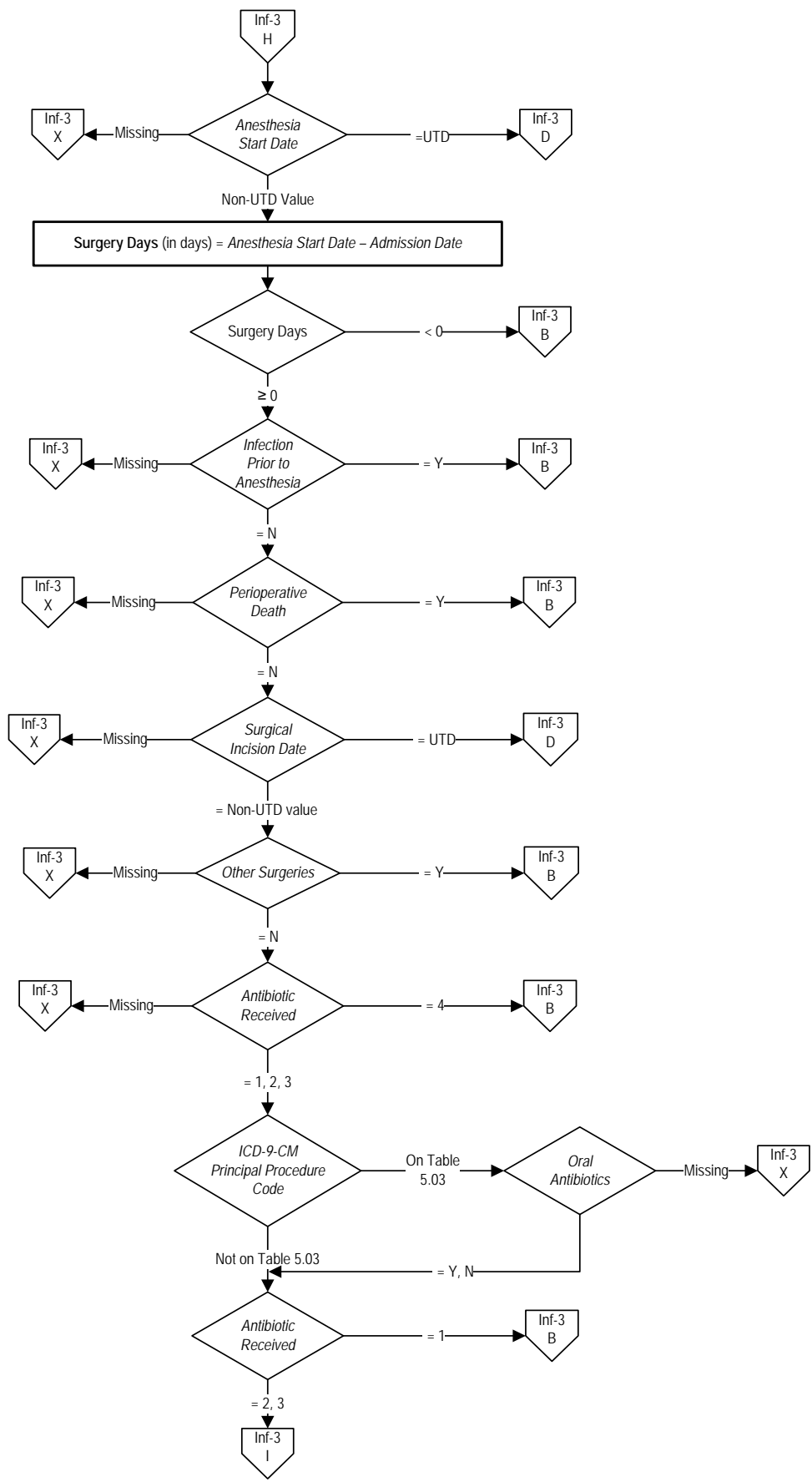
Variable Key:
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 Antibiotic Timing I
 Antibiotic Timing II
 Surgery Days
 Exclusion Flag

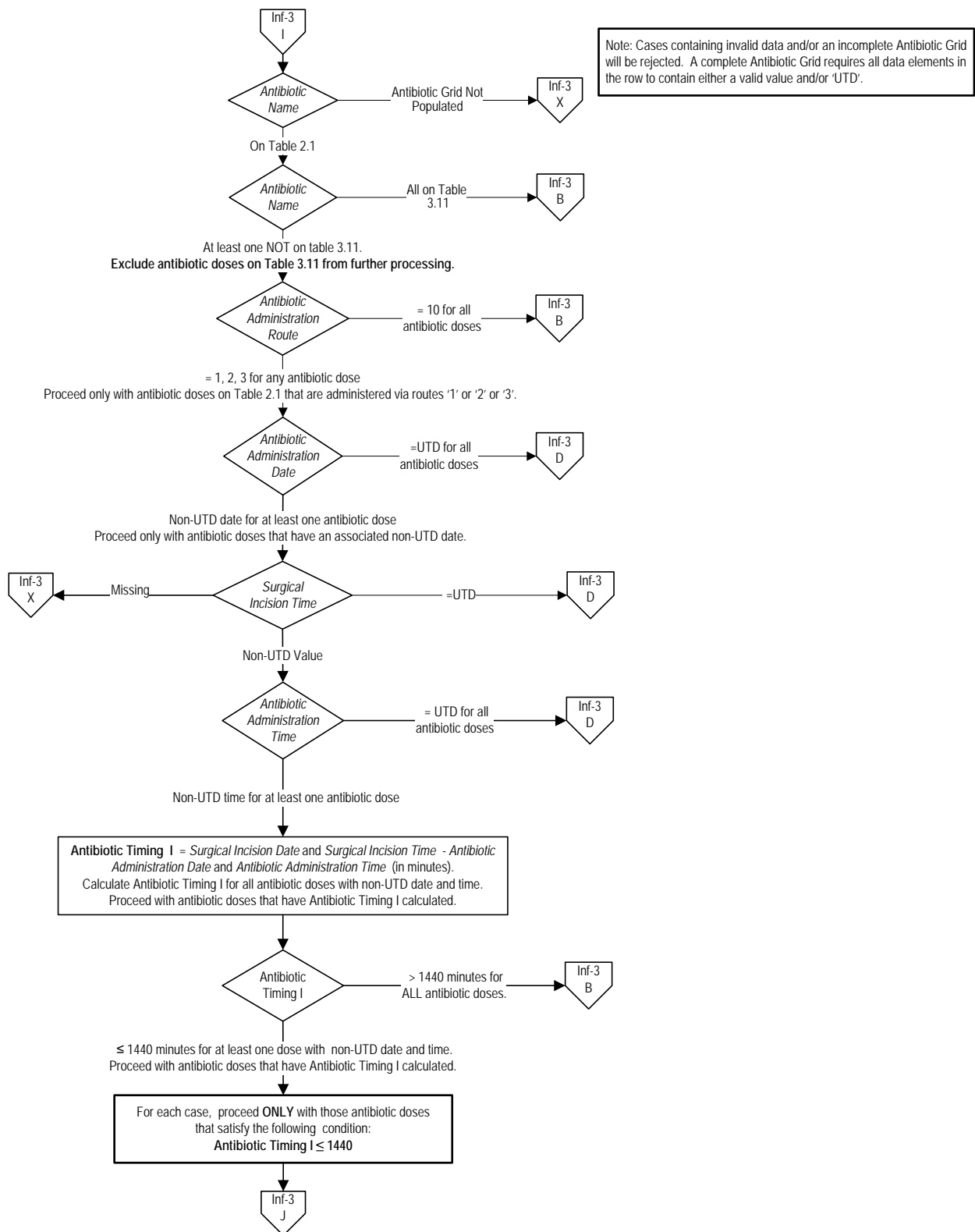


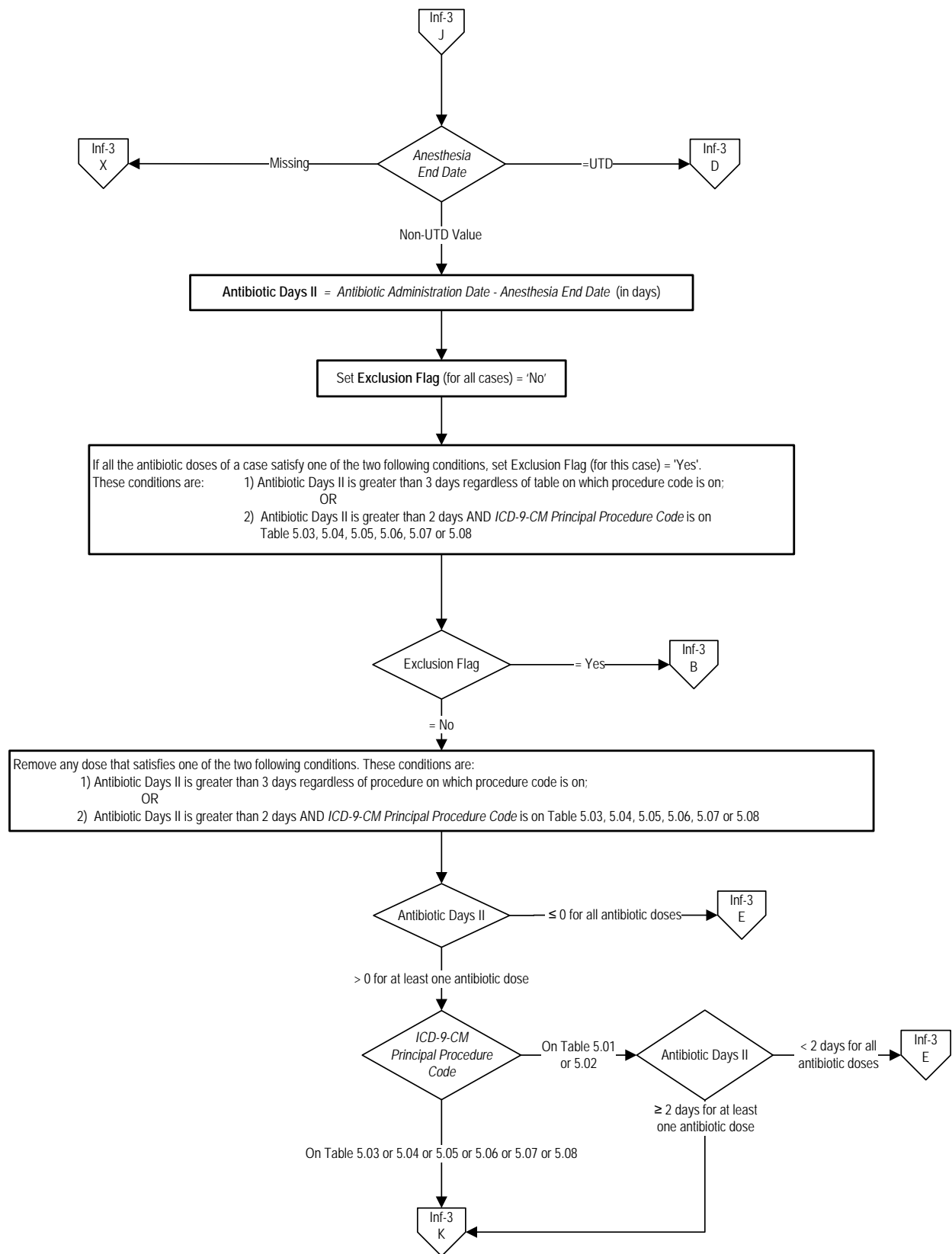
Stratification Table:

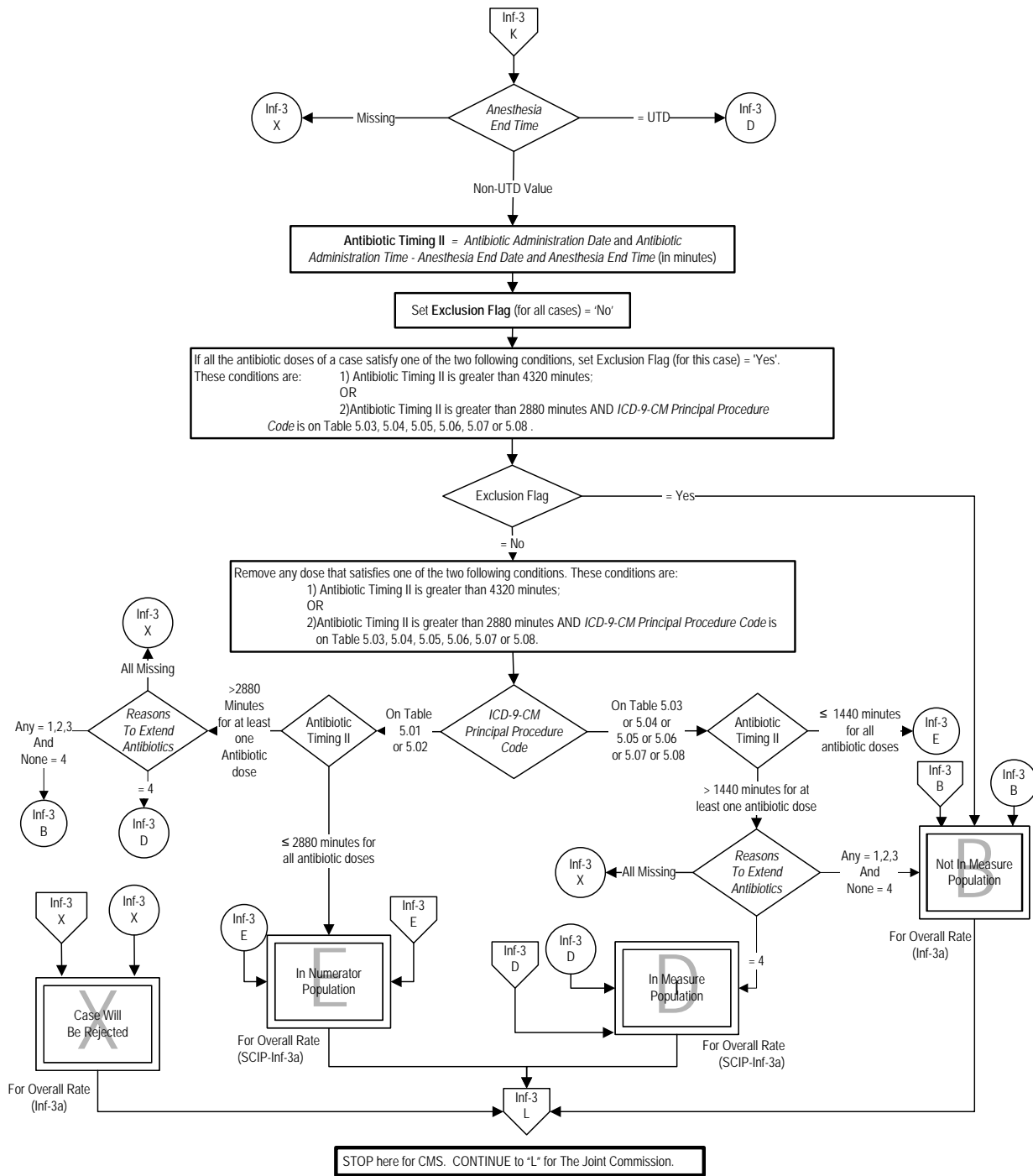
Set#	Stratified By	*Principal Procedure Code (Allowable Value)
SCIP-Inf3a	Overall Rate	**
SCIP-Inf3b	CABG	Table 5.01
SCIP-Inf3c	Other Cardiac Surgery	Table 5.02
SCIP-Inf3d	Hip Arthroplasty	Table 5.04
SCIP-Inf3e	Knee Arthroplasty	Table 5.05
SCIP-Inf3f	Colon Surgery	Table 5.03
SCIP-Inf3g	Hysterectomy	Table 5.06 Or 5.07
SCIP-Inf3h	Vascular Surgery	Table 5.08

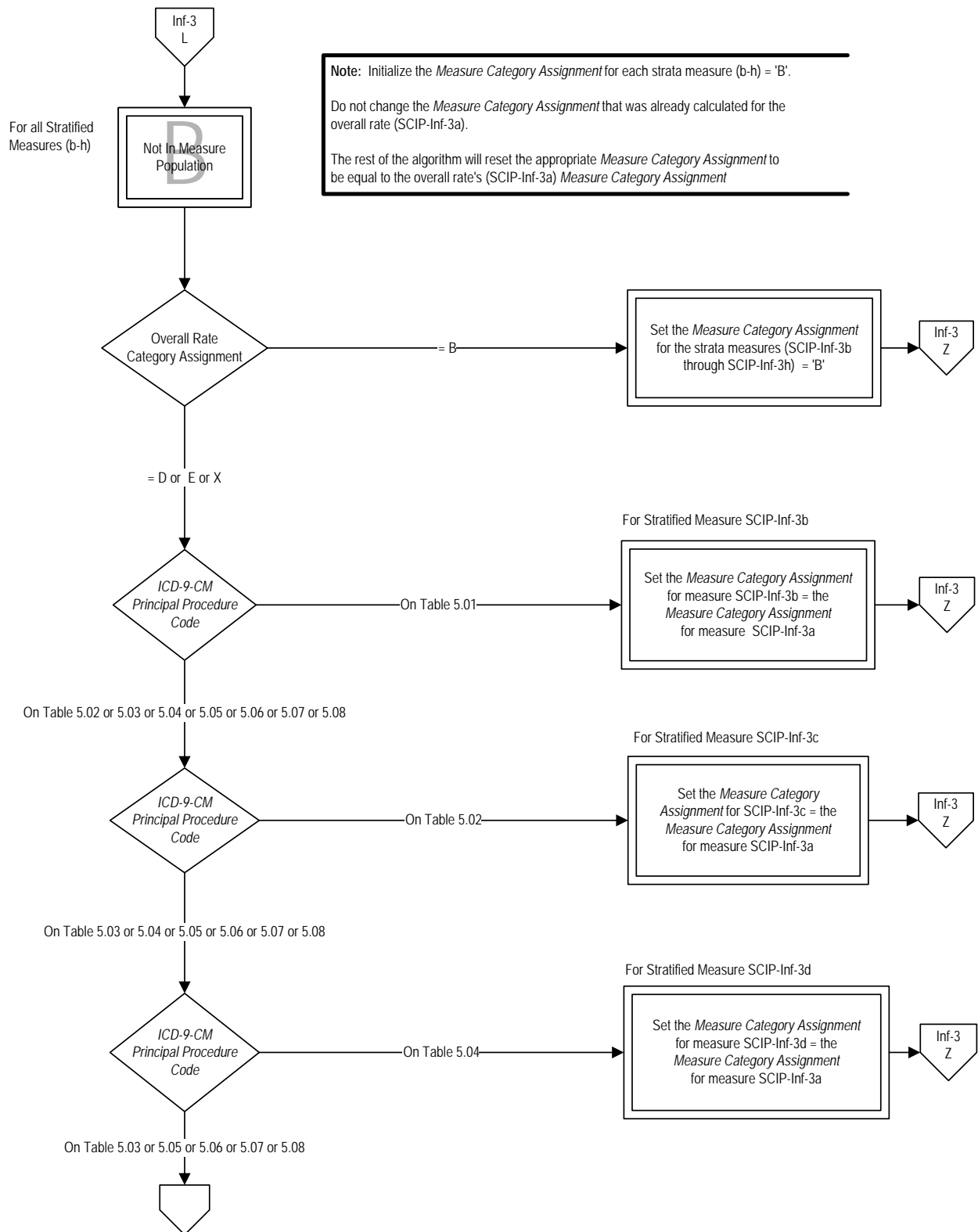
* This refers to the data element 'ICD-9-CM Principal Procedure Code'. Each case will be stratified according to the principal procedure code, after the Category Assignments are completed and the overall rate is calculated.
 ** No allowable value exists for the overall rate. It includes all procedures on Tables 5.01 to 5.08.

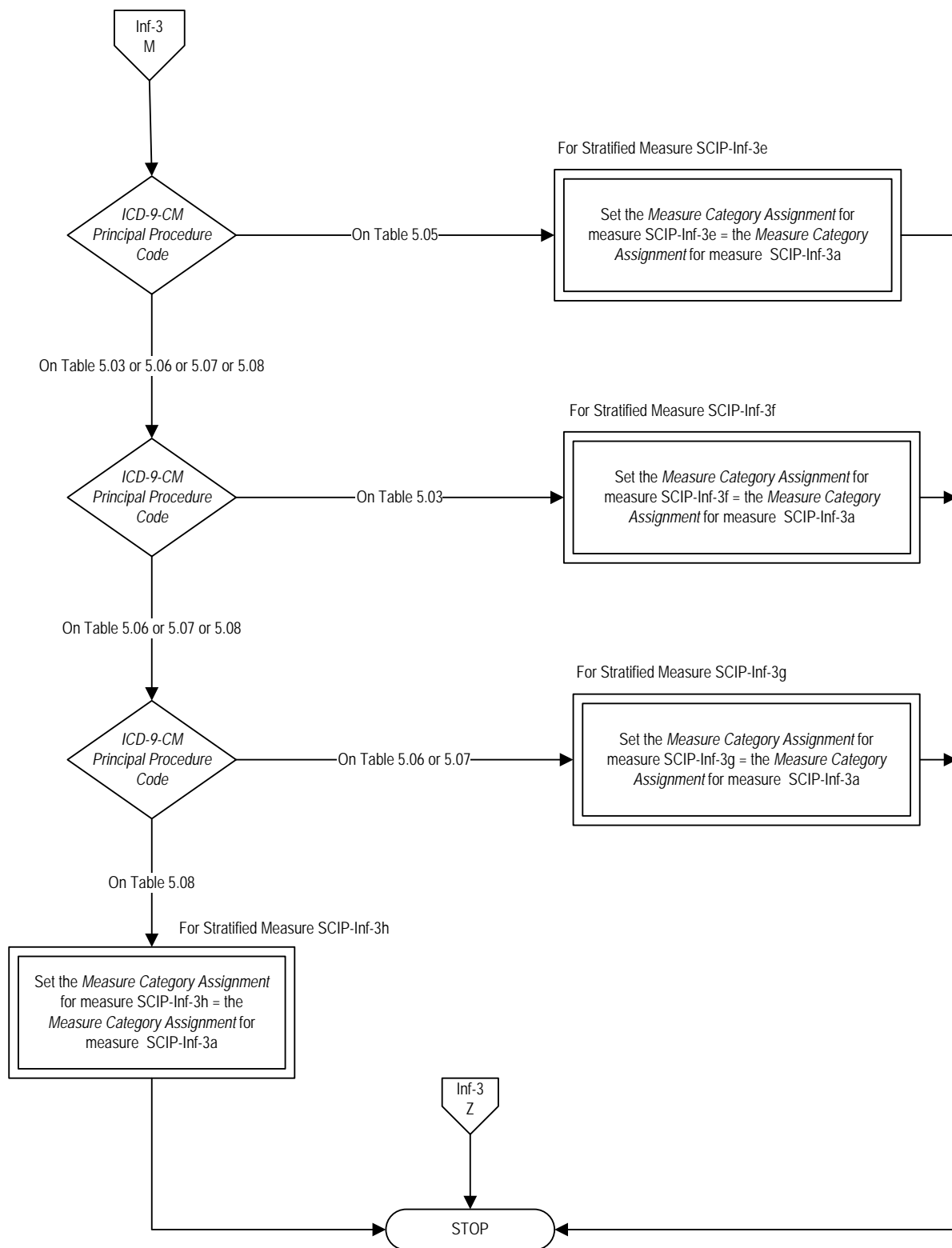












SCIP-Infection (Inf)-3: Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time

Numerator: Number of surgical patients whose prophylactic antibiotics were discontinued within 24 hours after Anesthesia End Time (48 hours for Coronary Artery Bypass Graft [CABG] or Other Cardiac Surgery).

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

Variable Key: Antibiotic Days II, Antibiotic Timing I, Antibiotic Timing II, Surgery Days, Exclusion Flag

Stratification Table

The Stratification Table includes the Set Number, Stratified By, and the Principal Procedure Code (Allowable Value). The Principal Procedure Code refers to the data element ICD-9-CM Principal Procedure Code. Each case will be stratified according to the principal procedure code, after the Category Assignments are completed and the overall rate is calculated.

Set Number	Stratified By the Overall Rate	Principal Procedure Code
SCIP-Inf-3a	Overall Rate	No allowable Value exists for the overall rate. It includes all procedures on Tables 5.01 to 5.08.
SCIP-Inf-3b	Coronary Artery Bypass Graft (CABG)	Table 5.01
SCIP-Inf-3c	Other Cardiac Surgery	Table 5.02
SCIP-Inf-3d	Hip Arthroplasty	Table 5.04
SCIP-Inf-3e	Knee Arthroplasty	Table 5.05
SCIP-Inf-3f	Colon Surgery	Table 5.03
SCIP-Inf-3g	Hysterectomy	Table 5.06 or Table 5.07
SCIP-Inf-3h	Vascular Surgery	Table 5.08

1. Start processing. Run cases that are included in the Surgical Care Improvement Project (SCIP) Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.
2. Check ICD-9-CM Principal Procedure Code
 - a. If the ICD-9-CM Principal Procedure Code is not on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.

- b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to recheck ICD-9-CM Principal Diagnosis Code.
 3. Check ICD-9-CM Principal Diagnosis Code
 - a. If the ICD-9-CM Principal Diagnosis Code is on Table 5.09, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the ICD-9-CM Principal Diagnosis Code is not on Table 5.09, continue processing and proceed to Clinical Trial.
 4. Check Clinical Trial
 - a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date.
 5. Check Anesthesia Start Date
 - a. If the Anesthesia Start Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Anesthesia Start Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation.
 6. Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date.
 7. Check Surgery Days
 - a. If the Surgery Days is less than zero, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop

- processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
- b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Infection Prior to Anesthesia.
8. Check Infection Prior to Anesthesia
 - a. If Infection Prior to Anesthesia is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Infection Prior to Anesthesia equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Infection Prior to Anesthesia equals No, continue processing and proceed to Perioperative Death.
 9. Check Perioperative Death
 - a. If Perioperative Death is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Perioperative Death equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Perioperative Death equals No, continue processing and proceed to Surgical Incision Date.
 10. Check Surgical Incision Date
 - a. If the Surgical Incision Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP- Inf-3a) for The Joint Commission.
 - b. If the Surgical Incision Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Surgical Incision Date equals a Non Unable To Determine Value, continue processing and proceed to Other Surgeries.
 11. Check Other Surgeries

- a. If Other Surgeries is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Other Surgeries equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If Other Surgeries equals No, continue processing and proceed to Antibiotic Received.
12. Check Antibiotic Received
- a. If Antibiotic Received is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Antibiotic Received equals 1, 2 or 3, continue processing and proceed to recheck ICD-9-CM Principal Procedure Code.
 - c. If Antibiotic Received equals 4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
13. Recheck ICD-9-CM Principal Procedure Code only if Antibiotic Received equals 1, 2 or 3
- a. If the ICD-9-CM Principal Procedure Code is not on Table 5.03, continue processing and proceed to step 15 and recheck Antibiotic Received.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.03, continue processing and proceed to check Oral Antibiotics.
14. Check Oral Antibiotics
- a. If Oral Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If Oral Antibiotics equals Yes or No, continue processing and proceed to recheck Antibiotic Received.
15. Recheck Antibiotic Received
- a. If Antibiotic Received equals 1, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.

- b. If Antibiotic Received equals 2 or 3, continue processing and proceed to Antibiotic Name.
16. Check Antibiotic Name
- a. If the Antibiotic Grid is not populated, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission. Note: Cases containing invalid data and/or an incomplete Antibiotic Grid will be rejected. A complete Antibiotic Grid requires all data elements in the row to contain either a valid value and/or Unable to Determine.
 - b. If the Antibiotic Name is on Table 2.1, continue processing and recheck Antibiotic Name.
17. Recheck Antibiotic Name
- a. If all of the Antibiotic Names are on Table 3.11, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If at least one of the Antibiotic Names is NOT on Table 3.11, continue processing and proceed to Antibiotic Administration Route. Exclude antibiotic doses on Table 3.11 from further processing.
18. Check Antibiotic Administration Route
- a. If the Antibiotic Administration Route is equal to 10 for all antibiotic doses, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Antibiotic Administration Route is equal to 1, 2 or 3 for any antibiotic dose, continue processing and proceed to Antibiotic Administration Date. Proceed only with antibiotic doses on Table 2.1 that are administered via routes 1, 2 or 3.
19. Check Antibiotic Administration Date
- a. If the Antibiotic Administration Date is equal to Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Antibiotic Administration Date is equal to a Non Unable to Determine date for at least one antibiotic dose, continue processing and proceed to

Surgical Incision Time. Proceed only with antibiotic doses that have an associated Non Unable to Determine date.

20. Check Surgical Incision Time
 - a. If the Surgical Incision Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Surgical Incision Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If the Surgical Incision Time is equal to a Non Unable to Determine Value, continue processing and check Antibiotic Administration Time.
21. Check Antibiotic Administration Time
 - a. If the Antibiotic Administration Time equals Unable to Determine for all antibiotic doses, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Antibiotic Administration Time equals a Non Unable to Determine time for at least one antibiotic dose, continue processing and proceed to the Antibiotic Timing I calculation.
22. Calculate Antibiotic Timing I. Antibiotic Timing I, in minutes, is equal to the Surgical Incision Date and Surgical Incision Time minus the Antibiotic Administration Date and Antibiotic Administration Time. Calculate Antibiotic Timing I for all antibiotic doses with non Unable to Determine date and time. Proceed with antibiotic doses that have Antibiotic Timing I calculated.
23. Check Antibiotic Timing I
 - a. If the Antibiotic Timing I is greater than 1440 minutes for ALL antibiotic doses, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Antibiotic Timing I is less than or equal to 1440 minutes for at least one antibiotic dose with non Unable to Determine date and time, proceed with antibiotic doses that have Antibiotic Timing I calculated, continue processing and proceed to check Anesthesia End Date. For each case, proceed only with those antibiotic doses that satisfy the following condition: Antibiotic Timing I less than or equal to 1440.

24. Check Anesthesia End Date
 - a. If the Anesthesia End Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Anesthesia End Date is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If the Anesthesia End Date is equal to a Non Unable to Determine value, continue processing and proceed to the Antibiotic Days II calculation.
25. Calculate Antibiotic Days II. Antibiotic Days II, in days, is equal to the Antibiotic Administration Date minus the Anesthesia End Date.
26. Set Exclusion Flag, for all cases, to equal No. If all of the antibiotic doses of a case satisfy one of the two following conditions, set Exclusion Flag (for this case) to equal 'Yes'. These conditions are:
 - a. Antibiotic Days II is greater than 3 days regardless of table on which procedure code is on; OR
 - b. Antibiotic Days II is greater than 2 days AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08.
27. Check Exclusion Flag
 - a. If the Exclusion Flag is equal to Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Exclusion Flag is equal to No, continue processing and proceed to check Antibiotic Days II. Remove any dose that satisfies one of the two following conditions. These conditions are:
 1. Antibiotic Days II is greater than 3 days regardless of procedure on which procedure code is on; OR
 2. Antibiotic Days II is greater than 2 days AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07 or 5.08.
28. Check Antibiotic Days II
 - a. If the Antibiotic Days II is less than or equal to zero for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.

- b. If the Antibiotic Days II is greater than zero for at least one antibiotic dose, continue processing and recheck ICD-9-CM Principal Procedure Code.
29. Recheck ICD-9-CM Principal Procedure Code
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02, continue processing and recheck Antibiotic Days II.
 - 1. If the Antibiotic Days II is less than 2 days for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - 2. If the Antibiotic Days II is greater than or equal to 2 days for at least one antibiotic dose, continue processing and proceed to Anesthesia End Time.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and proceed to Anesthesia End Time.
30. Check Anesthesia End Time
- a. If the Anesthesia End Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Anesthesia End Time is equal to Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If the Anesthesia End Time is equal to a Non Unable to Determine Value, continue processing and proceed to the Antibiotic Timing II calculation.
31. Calculate Antibiotic Timing II. Antibiotic Timing II, in minutes, is equal to the Antibiotic Administration Date and Antibiotic Administration Time minus Anesthesia End Date and Anesthesia End Time.
32. Set Exclusion Flag. Set Exclusion Flag, for all cases, to equal 'No'. If all of the antibiotic doses of a case satisfy one of the two following conditions, set Exclusion Flag (for this case) to equal 'Yes'. These conditions are:
- a. Antibiotic Timing II is greater than 4320 minutes; OR
 - b. Antibiotic Timing II is greater than 2880 minutes AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08.
33. Check Exclusion Flag

- a. If the Exclusion Flag equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to step 35 and check the Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the Exclusion Flag equals No, continue processing and recheck ICD-9-CM Principal Procedure Code and Antibiotic Timing II. Remove any dose that satisfies one of the two following conditions. These conditions are:
 - 1. Antibiotic Timing II is greater than 4320 minutes; OR
 - 2. Antibiotic Timing II is greater than 2880 minutes AND ICD-9-CM Principal Procedure Code is on Table 5.03, 5.04, 5.05, 5.06, 5.07, or 5.08.
34. Recheck ICD-9-CM Principal Procedure Code and Antibiotic Timing II
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 and Antibiotic Timing II is less than or equal to 2880 minutes for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.01 or 5.02 and Antibiotic Timing II is greater than 2880 minutes for at least one antibiotic dose, continue processing and proceed to check Reasons To Extend Antibiotics.
 - 1. If Reasons To Extend Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - 2. If Reasons To Extend Antibiotics equals 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - 3. If any Reasons To Extend Antibiotics equals 1, 2, 3 and None equals 4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 - c. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08 and Antibiotic Timing II is less than or equal to 1440 minutes for all antibiotic doses, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.

- d. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08 and Antibiotic Timing II is greater than 1440 minutes for at least one antibiotic dose, continue processing and proceed to check Reasons To Extend Antibiotics.
 1. If Reasons To Extend Antibiotics is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 2. If Reasons To Extend Antibiotics equals 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
 3. If any Reasons To Extend Antibiotics equals 1, 2, 3 and None equals 4, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing for CMS. Proceed to Stratified Measures for Overall Rate (SCIP-Inf-3a) for The Joint Commission.
35. For The Joint Commission Only, continue processing for the Stratified Measures. Note: Initialize the Measure Category Assignment for each strata measure (b-h) to equal B, not in the Measure Population. Do not change the Measure Category Assignment that was already calculated for the overall rate (SCIP-Inf-3a). The rest of the algorithm will reset the appropriate Measure Category Assignment to be equal to the overall rate's (SCIP-Inf-3a) Measure Category Assignment.
36. Check Overall Rate Category Assignment
 - a. If the Overall Rate Category Assignment is equal to B, set the Measure Category Assignment for the strata measures (SCIP-Inf-3b through SCIP-Inf-3h) to equal B, not in the Measure Population. Stop processing.
 - b. If the Overall Rate Category Assignment is equal to D or E or X, continue processing and check the ICD-9-CM Principal Procedure Code.
37. Check ICD-9-CM Principal Procedure Code
 - a. If the ICD-9-CM Principal Procedure Code is on Table 5.01, for Stratified Measure SCIP-Inf-3b, set the Measure Category Assignment for measure SCIP-Inf-3b to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.02 or 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code.
38. Recheck ICD-9-CM Principal Procedure Code
 - a. If the ICD-9-CM Principal Procedure Code is on Table 5.02, for Stratified Measure SCIP-Inf-3c, set the Measure Category Assignment for measure

- SCIP-Inf-3c to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
- b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.04 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code.
39. Recheck ICD-9-CM Principal Procedure Code
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.04, for Stratified Measure SCIP-Inf-3d, set the Measure Category Assignment for measure SCIP-Inf-3d to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.05 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code.
40. Recheck ICD-9-CM Principal Procedure Code
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.05, for Stratified Measure SCIP-Inf-3e, set the Measure Category Assignment for measure SCIP-Inf-3e to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.03 or 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code.
41. Recheck ICD-9-CM Principal Procedure Code
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.03, for Stratified Measure SCIP-Inf-3f, set the Measure Category Assignment for measure SCIP-Inf-3f to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07 or 5.08, continue processing and recheck the ICD-9-CM Principal Procedure Code.
42. Recheck ICD-9-CM Principal Procedure Code
- a. If the ICD-9-CM Principal Procedure Code is on Table 5.06 or 5.07, for Stratified Measure SCIP-Inf-3g, set the Measure Category Assignment for measure SCIP-Inf-3g to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.08, for Stratified Measure SCIP-Inf-3h, set the Measure Category Assignment for measure SCIP-Inf-3h to equal the Measure Category Assignment for measure SCIP-Inf-3a. Stop processing.