

**Quality ID #352: Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet**  
– National Quality Strategy Domain: Patient Safety  
– Meaningful Measure Area: Healthcare Associated Infections

**2019 OPTIONS FOR INDIVIDUAL MEASURES:**  
**MIPS CLINICAL QUALITY MEASURES (CQMS)**

**MEASURE TYPE:**

Process – High Priority

**DESCRIPTION:**

Percentage of patients regardless of age undergoing a total knee replacement who had the prophylactic antibiotic completely infused prior to the inflation of the proximal tourniquet

**INSTRUCTIONS:**

This measure is to be submitted **each time** a procedure for total knee replacement is performed during the performance period. There is no diagnosis associated with this measure. This measure may be submitted by Merit-based Incentive Payment System (MIPS) eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

**Measure Submission Type:**

Measure data may be submitted by individual MIPS eligible clinicians, groups, or third party intermediaries. The listed denominator criteria are used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions as allowed by the measure. The quality-data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

**DENOMINATOR:**

Patients regardless of age undergoing a total knee replacement performed

**Denominator Criteria (Eligible Cases):**

All patients, regardless of age

**AND**

**Patient procedure during the performance period (CPT):** 27438, 27442, 27445, 27446, 27447

**NUMERATOR:**

Patients who had the prophylactic antibiotic completely infused prior to the inflation of the proximal tourniquet (tourniquet around the proximal thigh)

**Numerator Options:**

***Performance Met:***

Patients who had the prophylactic antibiotic completely infused prior to the inflation of the proximal tourniquet  
**(G9301)**

**OR**

***Denominator Exception:***

Documentation of medical reason(s) for not completely infusing the prophylactic antibiotic prior to the inflation of the proximal tourniquet (e.g., a tourniquet was not used)  
**(G9300)**

**OR**

**Performance Not Met:**

Prophylactic antibiotic not completely infused prior to the inflation of the proximal tourniquet, reason not given  
**(G9302)**

**RATIONALE:**

The Surgical Care Improvement Project (SCIP) evaluates the timing and appropriateness of the prophylactic antibiotic. This measure evaluates that the prophylactic antibiotic is completely infused prior to the inflation of the tourniquet.

This measure is designed for use by physicians and eligible health care professionals managing ongoing care for all patients undergoing a total knee replacement. This measure addresses the intraoperative period.

**CLINICAL RECOMMENDATION STATEMENT:**

*National Surgical Infection Prevention Project Advisory Statement 2004* (Bratzler DW, Houck PM, 2005)

If a proximal tourniquet is used, the antimicrobial should be completely infused before inflation.

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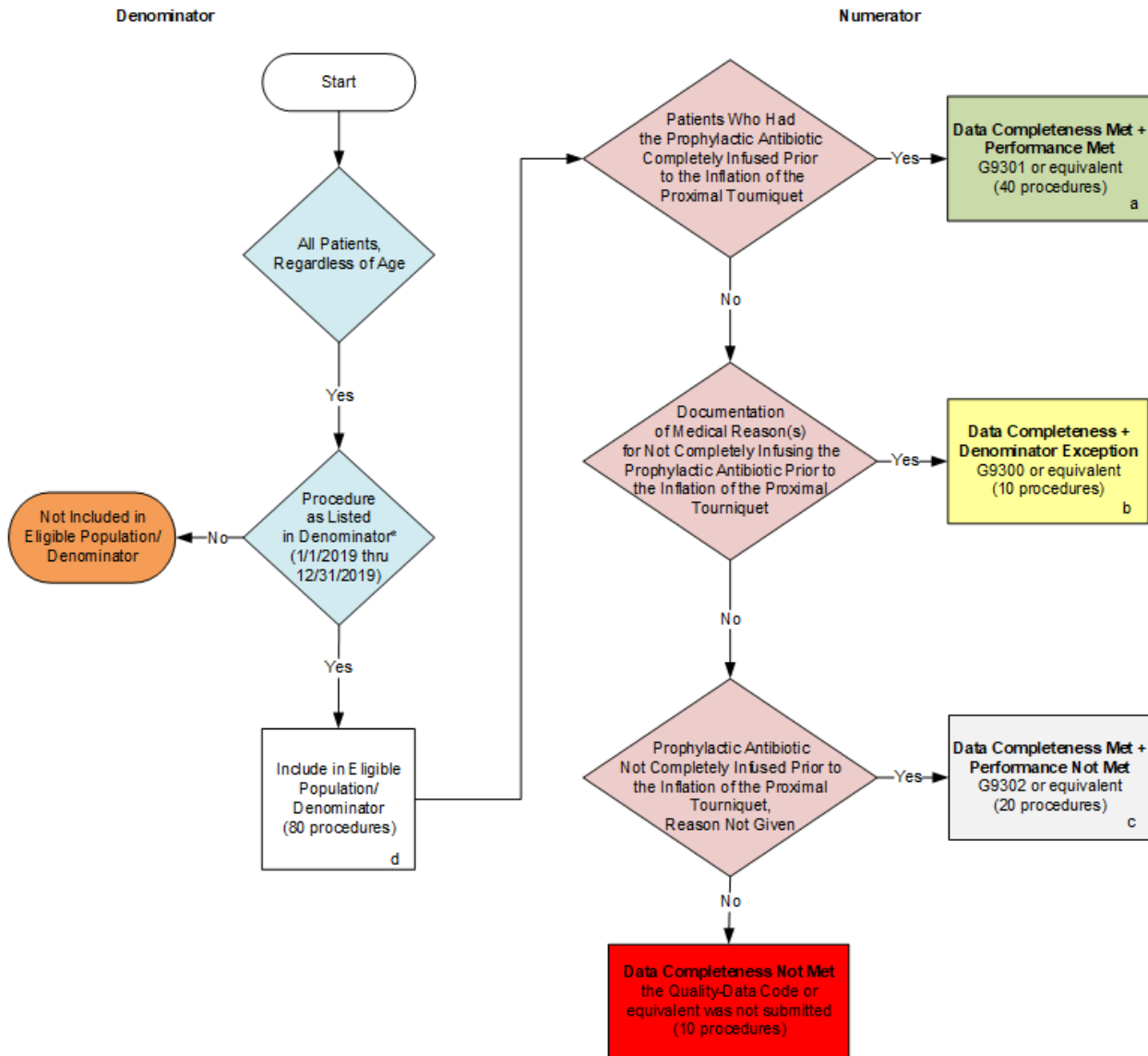
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**2019 Clinical Quality Measure Flow for Quality ID #352:  
Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet**



**SAMPLE CALCULATIONS:**

**Data Completeness=**  

$$\frac{\text{Performance Met (a=40 procedures)} + \text{Denominator Exception (b=10 procedures)} + \text{Performance Not Met (c=20 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**  

$$\frac{\text{Performance Met (a=40 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception (b=10 procedures)} = 60 \text{ procedures}} = \frac{40 \text{ procedures}}{60 \text{ procedures}} = 66.67\%$$

\*See the posted Measure Specification for specific coding and instructions to submit this measure.

NOTE: Submission Frequency: Procedure

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 The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification.

**2019 Clinical Quality Measure Flow for Quality ID #352:  
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Please refer to the specific section of the specification to identify the denominator and numerator information for use in submitting this Individual Specification.

1. Start with Denominator
2. All Patients, Regardless of Age
3. Check Procedure Performed:
  - a. If Procedure as Listed in the Denominator equals No, do not include in Eligible Population. Stop Processing.
  - b. If Procedure as Listed in the Denominator equals Yes, include in Eligible Population.
4. Denominator Population:
  - a. Denominator Population is all Eligible Procedures in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.
5. Start Numerator
6. Check Patients Who Had the Prophylactic Antibiotic Completely Infused Prior to the Inflation of the Proximal Tourniquet:
  - a. If Patients Who Had the Prophylactic Antibiotic Completely Infused Prior to the Inflation of the Proximal Tourniquet equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 40 procedures in the Sample Calculation.
  - c. If Patients Who Had the Prophylactic Antibiotic Completely Infused Prior to the Inflation of the Proximal Tourniquet equals No, proceed to check Documentation of Medical Reason(s) for Not Completely Infusing the Prophylactic Antibiotic Prior to the Inflation of the Proximal Tourniquet.
7. Check Documentation of Medical Reason(s) for Not Completely Infusing the Prophylactic Antibiotic Prior to the Inflation of the Proximal Tourniquet:
  - a. If Documentation of Medical Reason(s) for Not Completely Infusing the Prophylactic Antibiotic Prior to the Inflation of the Proximal Tourniquet equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 10 procedures in the Sample Calculation.
  - c. If Documentation of Medical Reason(s) for Not Completely Infusing the Prophylactic Antibiotic Prior to the Inflation of the Proximal Tourniquet equals No, proceed to check Prophylactic Antibiotic Not Completely Infused Prior to the Inflation of the Proximal Tourniquet, Reason Not Given.

8. Check Prophylactic Antibiotic Not Completely Infused Prior to the Inflation of the Proximal Tourniquet, Reason Not Given:
  - a. If Prophylactic Antibiotic Not Completely Infused Prior to the Inflation of the Proximal Tourniquet, Reason Not Given equals Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 20 procedures in the Sample Calculation.
  - c. If Prophylactic Antibiotic Not Completely Infused Prior to the Inflation of the Proximal Tourniquet, Reason Not Given equals No, proceed to check Data Completeness Not Met.
  
9. Check Data Completeness Not Met:
  - a. If Data Completeness Not Met, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

**SAMPLE CALCULATION S:**

**Data Completeness=**

$$\frac{\text{Performance Met (a=40 procedures)} + \text{Denominator Exception (b=10 procedures)} + \text{Performance Not Met (c=20 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**

$$\frac{\text{Performance Met (a=40 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception (b=10 procedures)}} = \frac{40 \text{ procedures}}{60 \text{ procedures}} = 66.67\%$$