

**Measure #352: Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet
– National Quality Strategy Domain: Patient Safety**

2017 OPTIONS FOR INDIVIDUAL MEASURES:
REGISTRY ONLY

MEASURE TYPE:
Process

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 reported **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 reported by eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

Measure Reporting:
The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

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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2017 Registry Individual Measure Flow



SAMPLE CALCULATIONS:

Data Completeness=

Performance Met (a=4 procedures) + Denominator Exception (b=1 procedure) + Performance Not Met (c=2 procedures) = 7 procedures = 87.50%
Eligible Population / Denominator (d=8 procedures) = 8 procedures

Performance Rate=

Performance Met (a=4 procedures) = $\frac{4 \text{ procedures}}{6 \text{ procedures}} = 66.67\%$

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

NOTE: Reporting 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.

v1

2017 Registry Individual Measure Flow

#352: Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet

1. Start with Denominator
2. Check Encounter Performed:
 - a. If Encounter as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
 - b. If Encounter as Listed in the Denominator equals Yes, include in the Eligible Population.
3. Denominator Population:
 - a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 episodes in the sample calculation.
4. Start Numerator
5. 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 is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 4 episodes in Sample Calculation.
 - c. If A Patients Who Had the Prophylactic Antibiotic Completely Infused Prior to the Inflation of the Proximal Tourniquet equals No, proceed to Documentation of Medical Reason(s) For Not Completely Infusing the Prophylactic Antibiotic Prior to the Inflation of the Proximal Tourniquet.
6. 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 Performance Exception.
 - b. Data Completeness Met and Denominator Exception is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 1 episode 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 Prophylactic Antibiotic Not Completely Infused Prior to the Inflation of the Proximal Tourniquet, Reason Not Given.
7. 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 is represented in the Reporting Rate in the Sample Calculation listed at the end of this document. Letter c equals 2 episodes 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 Data Completeness Not Met.
8. Check Data Completeness Not Met:
- a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not reported. 1 episode has been subtracted from the reporting numerator in the sample calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=4 procedures)} + \text{Denominator Exception (b=1 procedure)} + \text{Performance Not Met (c=2 procedures)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{7 \text{ procedures}}{8 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=4 procedures)}}{\text{Data Completeness Numerator (7 procedures) - Denominator Exception (b=1 procedure)}} = \frac{4 \text{ procedures}}{6 \text{ procedures}} = 66.67\%$$