

## Quality ID #351: Total Knee or Hip Replacement: Venous Thromboembolic and Cardiovascular Risk Evaluation

### 2026 COLLECTION TYPE:

MERIT-BASED INCENTIVE PAYMENT SYSTEM (MIPS) CLINICAL QUALITY MEASURE (CQM)

### MEASURE TYPE:

Process – High Priority

### DESCRIPTION:

Percentage of patients regardless of age undergoing a total knee or total hip replacement who are evaluated for the presence or absence of venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure (e.g., History of Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), Myocardial Infarction (MI), Arrhythmia and Stroke).

### INSTRUCTIONS:

#### Reporting Frequency:

This measure is to be submitted each time for denominator eligible cases as defined in the denominator criteria.

#### Intent and Clinician Applicability:

This measure is intended to reflect the quality of services provided for patients who undergo total knee or total hip replacement. 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. There is no diagnosis associated with this measure.

#### Measure Strata and Performance Rates:

This measure contains one strata defined by a single submission criteria.

This measure produces a single performance rate.

#### Implementation Considerations:

For the purposes of MIPS implementation, this procedure measure is submitted each time a procedure is performed during the performance period.

#### Telehealth:

**NOT TELEHEALTH ELIGIBLE:** This measure is not appropriate for nor applicable to the telehealth setting. This measure is procedure based and therefore doesn't allow for the denominator criteria to be conducted via telehealth. It would be appropriate to remove these patients from the denominator eligible patient population. Telehealth eligibility is at the measure level for inclusion within the denominator eligible patient population and based on the measure specification definitions which are independent of changes to coding and/or billing practices.

#### Measure Submission:

The quality data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this collection type for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. The coding provided to identify the measure criteria: Denominator or Numerator, may be an example of coding that could be used to identify patients that meet the intent of this clinical topic. When implementing this measure, please refer to the 'Reference Coding' section to determine if other codes or code languages that meet the intent of the criteria may also be used within the medical record to identify and/or assess patients. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

### DENOMINATOR:

All patients regardless of age undergoing a total knee or total hip replacement.

**Denominator Criteria (Eligible Cases):**

All patients, regardless of age

**AND**

Patient procedure during the performance period (CPT): 27438, 27442, 27446, 27447, 27130

**NUMERATOR:**

Patients who are evaluated for the presence or absence of venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure (e.g., history of DVT, PE, MI, arrhythmia and stroke).

**Numerator Options:**

***Performance Met:***

Patients who are evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure (e.g., history of DVT, PE, MI, arrhythmia and stroke) (G9298)

**OR**

***Performance Not Met:***

Patients who are not evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure (e.g., history of DVT, PE, MI, arrhythmia and stroke, reason not given) (G9299)

**RATIONALE:**

Prior to a total knee or total hip replacement, the patient's venous thromboembolic and cardiovascular risk should be evaluated. A population-based study of all Olmstead County, Minnesota, patients undergoing a total hip or knee arthroplasty from 1994 - 2008, reported that patients undergoing a total hip or total knee arthroplasty with a previous history of a cardiac event or a thromboembolic event were associated with an increased risk of a 90-day cardiac or thromboembolic event following surgery.

A study using the Danish national resident registries compared all patients undergoing a primary total hip replacement and total knee replacement from 1998 – 2007 to control groups not undergoing one of the procedures and found that the MI rate 2 weeks after total knee replacement was increased 31-fold compared to the control group. The MI rate 2 weeks after total hip replacement was increased 25-fold compared to the control group.

Any preoperative disease state should be identified and managed prior to surgery to minimize the risk of the surgical procedure.

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

**CLINICAL RECOMMENDATION STATEMENT:**

Perioperative mortality and morbidity due to coronary artery disease (CAD) are untoward complications of noncardiac surgery. Major adverse cardiac events (MACE) after noncardiac surgery is often associated with prior CAD events. The stability and timing of a recent MI impact the incidence of perioperative morbidity and mortality.

A validated risk-prediction tool can be useful in predicting the risk of perioperative MACE in patients undergoing noncardiac surgery. (Class IIa Level of Evidence: B)

**REFERENCES:**

Fleisher, L. A., Fleischmann, K. E., Auerbach, A. D., Barnason, S. A., Beckman, J. A., Bozkurt, B., Davila-Roman, V. G., Gerhard-Herman, M., Holly, T. A., Kane, G. C., Marine, J. E., Nelson, M. T., Spencer, C. C., Thompson, A., Ting, H. H., Uretsky, B. F., & Wijeyesundera, D. N. (2014). 2014 ACC/AHA guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery: A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*, 64(22), e77–e137. Retrieved from <https://doi.org/10.1016/j.jacc.2014.07.944>

Lalmohamed, A., Vestergaard, P., Klop, C., Grove, E. L., de Boer, A., Leufkens, H. G. M., van Staa, T. P., & de Vries, F. (2012). Timing of acute myocardial infarction in patients undergoing total hip or knee replacement: A nationwide cohort study. *Archives of Internal Medicine*, 172(16), 1229–1235. Retrieved from <https://doi.org/10.1001/archinternmed.2012.2713>

Singh, J. A., Jensen, M. R., Harmsen, W. S., Gabriel, S. E., & Lewallen, D. G. (2011). Cardiac and thromboembolic complications and mortality in patients undergoing total hip and total knee arthroplasty. *Annals of Internal Medicine*, 155(5), 274–283. Retrieved from <https://doi.org/10.7326/0003-4819-155-5-201109060-00004>

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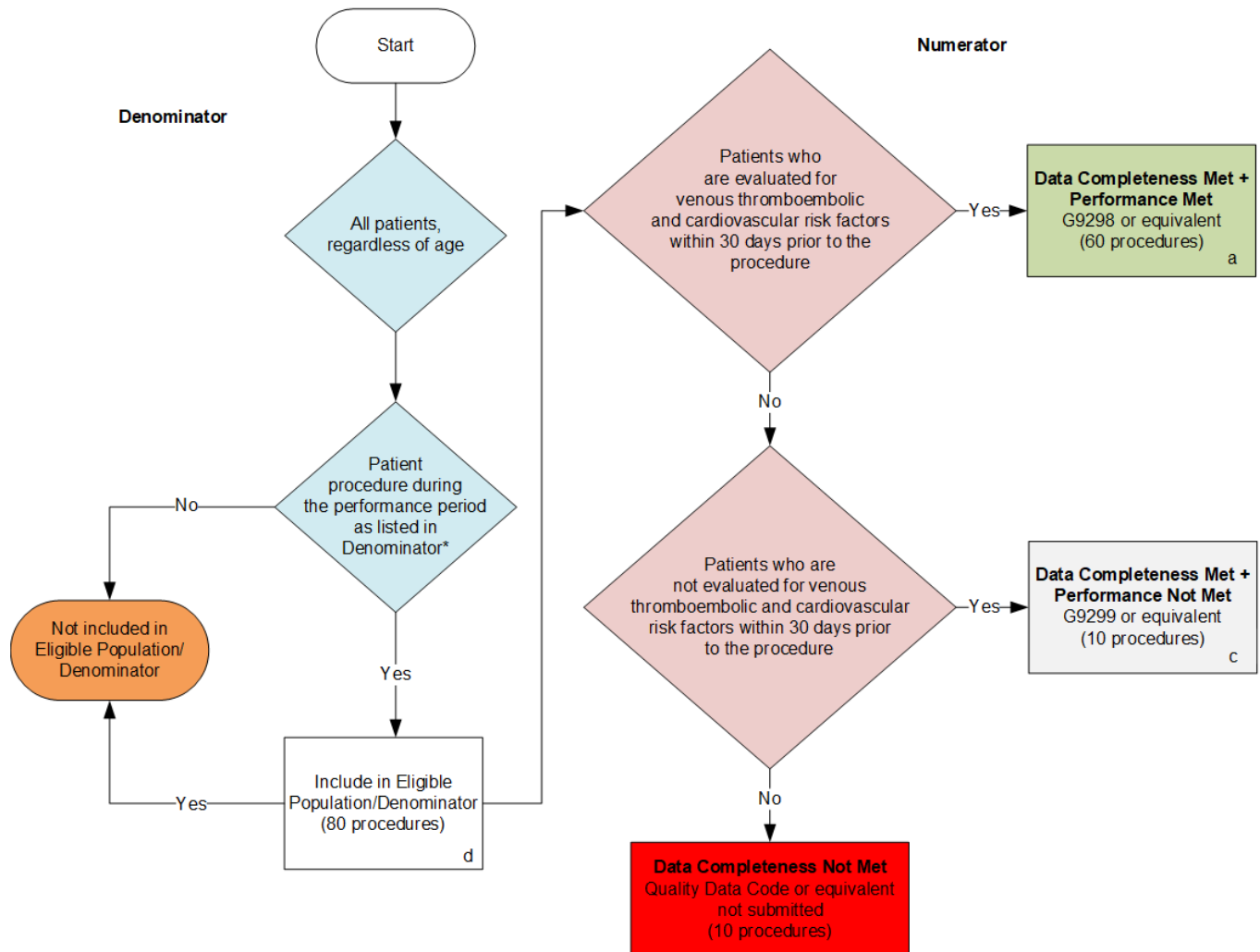
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**2026 Clinical Quality Measure Flow for Quality ID #351:  
Total Knee or Hip Replacement: Venous Thromboembolic and Cardiovascular Risk Evaluation**

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*



**SAMPLE CALCULATIONS**

**Data Completeness=**

$$\frac{\text{Performance Met (a=60 procedures)} + \text{Performance Not Met (c=10 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**

$$\frac{\text{Performance Met (a=60 procedures)}}{\text{Data Completeness Numerator (70 procedures)}} = \frac{60 \text{ procedures}}{70 \text{ procedures}} = 85.71\%$$

\*See the posted measure specification for specific coding and instructions to submit this measure  
NOTE: Submission Frequency: Procedure

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**2026 Clinical Quality Measure Flow Narrative for Quality ID #351:**  
**Total Knee or Hip Replacement: Venous Thromboembolic and Cardiovascular Risk Evaluation**

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*

1. Start with Denominator
2. *All patients, regardless of age.*
3. Check *Patient procedure during the performance period as listed in Denominator\**:
  - a. If *Patient procedure during the performance period as listed in Denominator\** equals No, do not include in *Eligible Population/Denominator*. Stop processing.
  - b. If *Patient procedure during the performance period as listed in Denominator\** equals Yes, proceed to check *Telehealth Modifier*.
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 are evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure*:
  - a. If *Patients who are evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure* equals Yes, include in *Data Completeness Met and Performance Met*.
    - *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 60 procedures in the Sample Calculation.
  - b. If *Patients who are evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure* equals No, proceed to check *Patients who are not evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure*.
7. Check *Patients who are not evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure*:
  - a. If *Patients who are not evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure* equals Yes, include in *Data Completeness Met and Performance Not Met*.
    - *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 10 procedures in the Sample Calculation.
  - b. If *Patients who are not evaluated for venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure* equals No, proceed to check *Data Completeness Not Met*.
8. Check *Data Completeness Not Met*:
  - 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 Calculations

Data Completeness equals Performance Met (a equals 60 procedures) plus Performance Not Met (c equals 10 procedures) divided by Eligible Population/Denominator (d equals 80 procedures). All equals 70 procedures divided by 80 procedures. All equals 87.50 percent.

Performance Rate equals Performance Met (a equals 60 procedures) divided by Data Completeness Numerator (70 procedures). All equals 60 procedures divided by 70 procedures. All equals 85.71 percent.

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

NOTE: Submission Frequency: Procedure

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