



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to subcriterion 1b).

Brief Measure Information

NQF #: 0218

Corresponding Measures:

De.2. Measure Title: Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

Co.1.1. Measure Steward: Centers for Medicare & Medicaid Services

De.3. Brief Description of Measure: Percentage of surgery patients who received appropriate Venous Thromboembolism (VTE) Prophylaxis within 24 hours prior to Anesthesia Start Time to 24 hours after Anesthesia End Time.

1b.1. Developer Rationale: Routine administration of VTE prophylaxis reduces adverse patient outcomes while also decreasing costs in the surgical patient. Process measures for VTE prophylaxis will prompt facilities and clinicians to evaluate the systems in place to ensure timeliness of administration, according to guidelines.

S.4. Numerator Statement: Surgery patients who received appropriate Venous Thromboembolism (VTE) prophylaxis within 24 hours prior to Anesthesia Start Time to 24 hours after Anesthesia End Time.

Appropriate prophylaxis according to Surgery Type:

Intracranial Neurosurgery

Any of the following:

- Intermittent pneumatic compression devices (IPC) with or without graduated compression stockings (GCS)
- Low-dose unfractionated heparin (LDUH)

Low molecular weight heparin (LMWH)²

- LDUH or LMWH² combined with IPC or GCS

General Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

General Surgery with a reason for not administering pharmacological prophylaxis

Any of the following:

- Graduated Compression stockings (GCS)
- Intermittent pneumatic compression devices (IPC)

Gynecologic Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (fondaparinux)
- Intermittent pneumatic compression devices (IPC)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

Urologic Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)

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- Factor Xa Inhibitor (fondaparinux)
- Intermittent pneumatic compression devices (IPC)
- Graduated compression stockings (GCS)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

Elective Total Hip Replacement

Any of the following started within 24 hours of surgery:

- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)

- Warfarin

-Oral Factor Xa Inhibitor

Elective Total Knee Replacement

Any of the following:

- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- Warfarin
- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

-Oral Factor Xa Inhibitor3

Hip Fracture Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- Warfarin

Elective Total Hip Replacement with a reason for not administering pharmacological prophylaxis

Any of the following:

- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

Hip Fracture Surgery with a reason for not administering pharmacological prophylaxis

Any of the following:

- Graduated Compression Stockings (GCS)
- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

S.7. Denominator Statement: Denominator Statement: All selected surgery patients

S.10. Denominator Exclusions: Data Elements:

- Admission Date
- Anesthesia End Date
- Anesthesia End Time
- Anesthesia Start Date
- Anesthesia Start Time
- Birthdate
- Clinical Trial
- Discharge Date
- ICD-9-CM Principal Diagnosis Code
- ICD-9-CM Principal Procedure Code
- Perioperative Death
- Preadmission Oral Anticoagulation Therapy
- Reason for Not Administering VTE Prophylaxis

De.1. Measure Type: Process

S.23. Data Source: Electronic Health Records, Other, Paper Medical Records

S.26. Level of Analysis: Facility, Population : Regional and State

IF Endorsement Maintenance – Original Endorsement Date: Aug 10, 2009 **Most Recent Endorsement Date:** Dec 02, 2011

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? The paired measure is #0217:Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. **Measures must be judged to meet all subcriteria to pass this criterion and be evaluated against the remaining criteria.**

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form
[0218_Evidence_MSF5.0_Data-635278497118171688.doc](#)

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., the benefits or improvements in quality envisioned by use of this measure)
 Routine administration of VTE prophylaxis reduces adverse patient outcomes while also decreasing costs in the surgical patient. Process measures for VTE prophylaxis will prompt facilities and clinicians to evaluate the systems in place to ensure timeliness of administration, according to guidelines.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. (This is required for endorsement maintenance. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included). This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.
 Hospital reported data from the clinical data warehouse for the first quarter in 2010 shows that facilities are providing recommended timely VTE prophylaxis 92.5% of the time. A national sample of 19,497 Medicare patients undergoing surgery in US hospitals during the first quarter of 2005 received recommended timely VTE prophylaxis 69.79% of the time.

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

In the first quarter of 2010, from 3533 reporting hospitals:

Denominator: 139,095, Numerator 128,718.

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. (This is required for endorsement maintenance. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

No disparities are publicly reported for this measure at this time.

Performance on most of the core measures is relatively high. For many of the core measures there are slight disparities but the absolute differences in performance by race are relatively small. Hispanics had lower rates for surgical care.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.

An attachment is provided that provides disparities information.

1c. High Priority (previously referred to as High Impact)

The measure addresses:

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- a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF; OR
- a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or future); severity of illness; and severity of patient/societal consequences of poor quality).

1c.1. Demonstrated high priority aspect of healthcare

Affects large numbers

1c.2. If Other:

1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare.

List citations in 1c.4.

here are over 30 million surgeries performed in the United States and prevention of perioperative venous thromboembolism is a major aspect of clinical care for the surgical patient. One study of patients discharged from 944 acute care hospitals in America found that postoperative VTE was the second most common medical complication and the third most common cause of excess mortality(1). Randomized clinical trials provide evidence that primary thromboprophylaxis reduces DVT and PE(2). PE is the most common preventable cause of patient death(3). Without prophylaxis, DVT occurs in almost 20% of major surgeries(4). Orthopedic patients experience a higher rate at 40- 60% (5)

1c.4. Citations for data demonstrating high priority provided in 1a.3

1. Zhan C, Miller MR. Excess length of stay, charges, and mortality attributable to medical injuries during hospitalization. JAMA 2003; 290: 1868-1874. 2. Geerts WH, Pineo GJ, Heit JA, et al. Prevention of venous thromboembolism: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. Chest 2004; 126:338S-400S. 3. Shojania KG, Duncan BW, McDonald KM, et al. Making health care safer: a critical analysis of patient safety practices; evidence report/technology assessment No. 43. AHRQ Publication No. 01-E058, Rockville, MD. Agency for Healthcare Research and Quality. Available at: www.ahrq.gov/clinic/ptsafety/. 4. Heit JA, Silverstein MD, Mohr DN, et al. Risk factors for deep vein thrombosis and pulmonary embolism: a population-based case-control study. Arch Intern Med 2000; 160: 809-815. 5. Geerts, WJ, Bergqvist D, Pineo GF, et al. Prevention of venous thromboembolism: American College of Chest Physicians evidence-based clinical practice guidelines (8th edition). Chest 2008; 133: 381-453.

1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. (Describe how and from whom their input was obtained.)

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the subcriteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Surgery

De.6. Non-Condition Specific (check all the areas that apply):

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)
<https://www.qualitynet.org/dcs/BlobServer?blobkey=id&blobnocache=true&blobwhere=1228890291048&blobheader=multipart%2Foetct-stream&blobheadername1=Content->

[Disposition&blobheadervalue1=attachment%3Bfilename%3D2.4_SCIP_v4_3b%2C0.pdf&blobcol=urldata&blobtable](#)

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: [Data_Dic_MIF_Table_5.10_and_Table_5.17_-_Table_5.24.xlsx](#)

S.3. For endorsement maintenance, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome)

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Surgery patients who received appropriate Venous Thromboembolism (VTE) prophylaxis within 24 hours prior to Anesthesia Start Time to 24 hours after Anesthesia End Time.

Appropriate prophylaxis according to Surgery Type:

Intracranial Neurosurgery

Any of the following:

- Intermittent pneumatic compression devices (IPC) with or without graduated compression stockings (GCS)
- Low-dose unfractionated heparin (LDUH)

Low molecular weight heparin (LMWH)²

- LDUH or LMWH² combined with IPC or GCS

General Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

General Surgery with a reason for not administering pharmacological prophylaxis

Any of the following:

- Graduated Compression stockings (GCS)
- Intermittent pneumatic compression devices (IPC)

Gynecologic Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (fondaparinux)
- Intermittent pneumatic compression devices (IPC)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

Urologic Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (fondaparinux)
- Intermittent pneumatic compression devices (IPC)
- Graduated compression stockings (GCS)
- LDUH or LMWH or Factor Xa Inhibitor (fondaparinux) combined with IPC or GCS

Elective Total Hip Replacement

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Any of the following started within 24 hours of surgery:

- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)

- Warfarin

-Oral Factor Xa Inhibitor

Elective Total Knee Replacement

Any of the following:

- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- Warfarin
- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

-Oral Factor Xa Inhibitor3

Hip Fracture Surgery

Any of the following:

- Low-dose unfractionated heparin (LDUH)
- Low molecular weight heparin (LMWH)
- Factor Xa Inhibitor (Fondaparinux)
- Warfarin

Elective Total Hip Replacement with a reason for not administering pharmacological prophylaxis

Any of the following:

- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

Hip Fracture Surgery with a reason for not administering pharmacological prophylaxis

Any of the following:

- Graduated Compression Stockings (GCS)
- Intermittent pneumatic compression devices (IPC)
- Venous foot pump (VFP)

S.5. Time Period for Data (What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)

24 hours prior to Anesthesia Start Time to 24 hours after Anesthesia End Time

S.6. Numerator Details (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Data Elements:

Anesthesia Type

VTE Prophylaxis

VTE Timely

S.7. Denominator Statement (Brief, narrative description of the target population being measured)

Denominator Statement: All selected surgery patients

S.8. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Elderly

S.9. Denominator Details (All information required to identify and calculate the target population/denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

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Included Populations:

- ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.10 for ICD-9-CM codes)
- AND
- ICD-9-CM Principal Procedure Code of selected surgeries (as defined in Appendix A, Table 5.17-5.24 for ICD-9-CM codes)

S.10. Denominator Exclusions (Brief narrative description of exclusions from the target population)

Data Elements:

- Admission Date
- Anesthesia End Date
- Anesthesia End Time
- Anesthesia Start Date
- Anesthesia Start Time
- Birthdate
- Clinical Trial
- Discharge Date
- ICD-9-CM Principal Diagnosis Code
- ICD-9-CM Principal Procedure Code
- Perioperative Death
- Preadmission Oral Anticoagulation Therapy
- Reason for Not Administering VTE Prophylaxis

S.11. Denominator Exclusion Details (All information required to identify and calculate exclusions from the denominator such as definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

Excluded Populations:

- Patients less than 18 years of age
- Patients who have a Length of Stay greater than 120 days
- Burn patients (as defined in Appendix A, Table 5.14 for ICD-9-CM codes)
- Patients enrolled in clinical trials
- Patients who are on oral anticoagulation therapy prior to admission
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
- Patients whose total surgery time is less than or equal to 60 minutes
- Patients who stay less than two nights
- Patients who expire perioperatively
- Patients with reasons for not administering both mechanical and pharmacological prophylaxis¹

S.12. Stratification Details/Variables (All information required to stratify the measure results including the stratification variables, definitions, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b)

No stratification except by surgery type and those are

Intracranial Neurosurgery Appendix A, Table 5.17

General Surgery Appendix A, Table 5.19

Gynecologic Surgery Appendix A, Table 5.20

Urologic Surgery Appendix A, Table 5.21

Elective Total Hip Replacement Appendix A, Table 5.22

Elective Total Knee Replacement Appendix A, Table 5.23

Hip Fracture Surgery Appendix A, Table 5.24

S.13. Risk Adjustment Type (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)

No risk adjustment or risk stratification

If other:

S.14. Identify the statistical risk model method and variables (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific

Acceptability)

N/A

S.15. Detailed risk model specifications (must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)

Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

S.15a. Detailed risk model specifications (if not provided in excel or csv file at S.2b)

S.16. Type of score:

Rate/proportion

If other:

S.17. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

S.18. Calculation Algorithm/Measure Logic (Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)

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. Calculate Patient Age. The Patient Age, in years, is equal to the Admission Date minus the Birthdate. Use the month and day portion of admission date and birthdate to yield the most accurate age.
3. Check Patient Age
 - a. If Patient Age is less than 18 years, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
 - b. If Patient Age is greater than or equal to 18 years, continue processing and proceed to ICD-9-CM Principal Procedure Code.
4. Check ICD-9-CM Principal Procedure Code
 - a. If the ICD-9-CM Principal Procedure Code is not on Table 5.17, 5.19, 5.20, 5.21, 5.22, 5.23, or 5.24, the case will proceed to a Measure Category Assignment of B and will not be in the measure population. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.17, 5.19, 5.20, 5.21, 5.22, 5.23, or 5.24, continue processing and proceed to ICD-9-CM Principal Diagnosis Code.
5. Check ICD-9-CM Principal Diagnosis Code
 - a. If the ICD-9-CM Principal Diagnosis Code is on Table 5.14, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
 - b. If the ICD-9-CM Principal Diagnosis Code is not on Table 5.14, continue processing and proceed to the LOS calculation.
6. Calculate LOS. LOS, in days, is equal to the Discharge Date minus the Admission Date.
7. Check LOS
 - a. If the LOS is less than 2 days, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Calculation. Stop processing.
 - b. If the LOS is greater than or equal to 2 days, continue processing and proceed to Clinical Trial.
8. 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.
 - 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.
 - c. If Clinical Trial equals No, continue processing and proceed to Preadmission Oral Anticoagulation Therapy.
9. Check Preadmission Oral Anticoagulation Therapy
 - a. If Preadmission Oral Anticoagulation Therapy is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Preadmission Oral Anticoagulation Therapy equals Yes, the case will proceed to a Measure Category Assignment of B and will

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not be in the Measure Population. Stop processing.

c. If Preadmission Oral Anticoagulation Therapy equals No, continue processing and proceed to Anesthesia Start Date.

10. 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.

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.

c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation.

11. Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date.

12. 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.

b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Perioperative Death.

13. 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.

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.

c. If Perioperative Death equals No, continue processing and proceed to Anesthesia Start Time.

14. Check Anesthesia Start Time

a. If the Anesthesia Start Time is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If the Anesthesia Start Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

c. If the Anesthesia Start Time equals a Non Unable to Determine Value, continue processing and proceed to Anesthesia End Date.

15. 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.

b. If the Anesthesia End 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.

c. If the Anesthesia End Date equals a Non Unable to Determine Value, continue processing and proceed to Anesthesia End Time.

16. 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.

b. If the Anesthesia End Time equals Unable to Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

c. If the Anesthesia End Time equals a Non Unable to Determine Value, continue processing and proceed to the Surgery Length calculation.

17. Calculate Surgery Length. Surgery Length, in minutes, is equal to the Anesthesia End Date and Anesthesia End Time minus the Anesthesia Start Date and Anesthesia Start Time.

18. Check Surgery Length

a. If the Surgery Length is less than or equal to 60 minutes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.

b. If the Surgery Length is greater than 60 minutes, continue processing proceed to Reason for Not Administering VTE Prophylaxis.

19. Check Reason for Not Administering VTE Prophylaxis

a. If Reason for Not Administering VTE Prophylaxis is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Reason for Not Administering VTE Prophylaxis equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.

c. If Reason for Not Administering VTE Prophylaxis equals No, continue processing and proceed to VTE Prophylaxis.

20. Check VTE Prophylaxis

a. If no values are populated in the VTE grid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

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- b. If VTE Prophylaxis equals A, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
- c. If the VTE grid is populated with any of values 1, 2, 3, 4, 5, 6, 7, 8, or 9, continue processing and proceed to recheck the ICD-9-CM Principal Procedure Code. Note: If VTE Prophylaxis field is populated with an allowable value of 1, 2, 3, 4, 5, 6, 7, 8 or 9 and the corresponding VTE Timely field is Missing, the entire case will be rejected by The Joint Commission and Centers for Medicare and Medicaid Services (CMS) warehouses.
- 21. Recheck ICD-9-CM Principal Procedure Code
 - a. If the ICD-9-CM Principal Procedure Code is on Tables 5.17, 5.20, 5.21, 5.22, 5.23, or 5.24, continue processing. Proceed to step 23 and recheck ICD-9-CM Principal Procedure Code for Tables 5.17, 5.20, 5.21, 5.22, 5.23, and 5.24. Do not recheck step 22 VTE Prophylaxis.
 - b. If the ICD-9-CM Principal Procedure Code is on Table 5.19, continue processing and recheck VTE Prophylaxis.
- 22. Recheck VTE Prophylaxis only if the ICD-9-CM Principal Procedure Code is on Table 5.19
 - a. If any VTE Prophylaxis equals 1, 2, 3 or 5, continue processing and check VTE Timely.
 - 1. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 5, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
 - 2. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3 and 5, continue processing and recheck Reason for Not Administering VTE Prophylaxis.
 - b. If none of the VTE Prophylaxis equals 1, 2, 3 or 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
- 23. Recheck ICD-9-CM Principal Procedure Code for Tables 5.17, 5.20, 5.21, 5.22, 5.23, and 5.24 only if the ICD-9-CM Principal Procedure Code was not on Table 5.19
 - a. If the ICD-9-CM Principal Procedure Code is on Table 5.17, continue processing and recheck VTE Prophylaxis.
 - 1. If any VTE Prophylaxis equals 1, 2, or 3, continue processing and check VTE Timely.
 - i. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
 - ii. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - 2. If none of the VTE Prophylaxis equals 1, 2, or 3, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Tables 5.20, 5.21, 5.22, 5.23, or 5.24, continue processing and recheck ICD-9-CM Principal Procedure Code.
- 24. Recheck ICD-9-CM Principal Procedure Code for Tables 5.20, 5.21, 5.22, 5.23, and 5.24 only if the ICD-9-CM Principal Procedure Code is not on Tables 5.17 or 5.19.
 - a. If the ICD-9-CM Principal Procedure Code is on Table 5.20, continue processing and recheck VTE Prophylaxis.
 - 1. If any VTE Prophylaxis equals 1, 2, 3 or 5, continue processing and check VTE Timely.
 - i. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 5, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
 - ii. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3 and 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - 2. If none of the VTE Prophylaxis equals 1, 2, 3, or 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Tables 5.21, 5.22, 5.23, or 5.24, continue processing and recheck ICD-9-CM Principal Procedure Code.
- 25. Recheck ICD-9-CM Principal Procedure Code for Tables 5.21, 5.22, 5.23, and 5.24 only if the ICD-9-CM Principal Procedure Code is not on Tables 5.17, 5.19, or 5.20.
 - a. If the ICD-9-CM Principal Procedure Code is on Table 5.21, continue processing and recheck VTE Prophylaxis.
 - 1. If any VTE Prophylaxis equals 1, 2, 3, or 5, continue processing and check VTE Timely.
 - i. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 5, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
 - ii. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3 and 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - 2. If none of the VTE Prophylaxis equals 1, 2, 3, or 5, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
 - b. If the ICD-9-CM Principal Procedure Code is on Tables 5.22, 5.23, or 5.24, continue processing and recheck ICD-9-CM Principal

#0218 Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery, Last Updated: May 06, 2016

Procedure Code.

26. Recheck ICD-9-CM Principal Procedure Code for Tables 5.22, 5.23, and 5.24 only if the ICD-9-CM Principal Procedure Code is not on Tables 5.17, 5.19, 5.20, or 5.21.

a. If the ICD-9-CM Principal Procedure Code is on Table 5.22 or Table 5.23, continue processing and recheck VTE Prophylaxis.

1. If any VTE Prophylaxis equals 1, 2, 3, 5, 6, 7, 8, or 9, continue processing and check VTE Timely.

i. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 5 or 6 or 7 or 8 or 9, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.

ii. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3 and 5 and 6 and 7 and 8 and 9, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

2. If the VTE Prophylaxis only equals 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

b. If the ICD-9-CM Principal Procedure Code is on Table 5.24, continue processing and recheck VTE Prophylaxis.

27. Recheck VTE Prophylaxis only if the ICD-9-CM Principal Procedure Code is on Table 5.24

a. If any VTE Prophylaxis equals 1, 2, 3, 5, 6, or 9, continue processing and check VTE Timely.

1. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 5 or 6 or 9, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.

2. If VTE Timely equals No for VTE Prophylaxis of 1 and 2 and 3 and 5 and 6 and 9, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

b. If none of the VTE Prophylaxis equals 1, 2, 3, 5, 6, or 9, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

S.19. Calculation Algorithm/Measure Logic Diagram URL or Attachment (You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

S.20. Sampling (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF a PRO-PM, identify whether (and how) proxy responses are allowed.

The SCIP Topic Population (common to all SCIP measures) is defined as patients admitted to the hospital for inpatient acute care with an ICD-9-CM Principal Procedure Code for SCIP as defined in Appendix A, Table 5.10 and a Length of Stay (Discharge Date - Admission Date) <= 120 days. There are eight distinct strata or sub-populations within the SCIP Topic Population, each identified by a specific group of procedure codes. The patients in each stratum are counted in the Initial Patient Population of multiple measures.

S.21. Survey/Patient-reported data (If measure is based on a survey, provide instructions for conducting the survey and guidance on minimum response rate.)

IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.

S.22. Missing data (specify how missing data are handled, e.g., imputation, delete case.)

Required for Composites and PRO-PMs.

S.23. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.24.

Electronic Health Records, Other, Paper Medical Records

S.24. Data Source or Collection Instrument (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)

IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.

Vendor tools (electronic) or CART. CART is available for download free at

<http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1138900279093>

S.25. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

URL

S.26. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility, Population : Regional and State

S.27. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Inpatient/Hospital

If other:

S.28. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

2a. Reliability – See attached Measure Testing Submission Form

2b. Validity – See attached Measure Testing Submission Form

0218_MeasureTesting_MSF5.0_Data-635278497118171688.doc

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields? (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)

No

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.

Measure will be retooled for EHR collection in the near future.

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those

whose performance is being measured.

There have been no implementation issues identified.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Planned	Current Use (for current use provide URL)
Payment Program	
Regulatory and Accreditation Programs	

4a.1. For each CURRENT use, checked above, provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

4a.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

4a.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

4b. Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b.1. Progress on Improvement. (Not required for initial endorsement unless available.)

Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:

- Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)

- **Geographic area and number and percentage of accountable entities and patients included**

4b.2. If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4c. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4c.1. Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.

[No unintended consequences have been identified.](#)

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.
[Yes](#)

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

5a. Harmonization

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications completely harmonized?

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed

measure(s):

Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

Not applicable

Related Measures: #217

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

Attachment:

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): Centers for Medicare & Medicaid Services

Co.2 Point of Contact: Helen, Dollar-Maples, Helen.Dollar-Maples@cms.hhs.gov, 410-786-7214-

Co.3 Measure Developer if different from Measure Steward: Centers for Medicare & Medicaid Services

Co.4 Point of Contact: Kristie, Baus, Kristie.Baus@cms.hhs.gov, 410-786-6738-

Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Surgical Care Improvement Project VTE TEP. Names available from OFMQ. Leading guideline author Bill Geerts MD was instrumental in the development of these two measures. He has been active on the TEP since its inception.

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2006

Ad.3 Month and Year of most recent revision: 10, 2010

Ad.4 What is your frequency for review/update of this measure? every six months

Ad.5 When is the next scheduled review/update for this measure? 04, 2011

Ad.6 Copyright statement:

Ad.7 Disclaimers:

Ad.8 Additional Information/Comments: