NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE

Measure Information Form

Measure Set: Surgical Care Improvement Project (SCIP)

Set Measure ID#: SCIP-VTE-2

Performance Measure Name: Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

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

Rationale: There are over 30 million surgeries performed in the United States each year. Despite the evidence that VTE is one of the most common postoperative complications and prophylaxis is the most effective strategy to reduce morbidity and mortality, it is often underused. The frequency of Venous Thromboembolism (VTE), that includes deep vein thrombosis and pulmonary embolism, is related to the type and duration of surgery, patient risk factors, duration and extent of postoperative immobilization, and use or nonuse of prophylaxis. According to Heit et al, 2000, surgery was associated with over a twenty-fold increase in the odds of being diagnosed with VTE. Studies have shown that appropriately used thromboprophylaxis has a positive risk/benefit ratio and is cost effective. Prophylaxis recommendations for this measure are based on selected surgical procedures from the 2008 American College of Chest Physicians guidelines.

Timing of prophylaxis is based on the type of procedure, prophylaxis selection, and clinical judgment regarding the impact of patient risk factors. The optimal start of pharmacologic prophylaxis in surgical patients varies and must be balanced with the efficacy-versus-bleeding potential. Due to the inherent variability related to the initiation of prophylaxis for surgical procedures, 24 hours prior to surgery to 24 hours post surgery was recommended by consensus of the SCIP Technical Expert Panel in order to establish a timeframe that would encompass most procedures.

Type of Measure: Process

Improvement Noted As: An increase in the rate.

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.*

Included Populations: Not applicable

Excluded Populations: None

Data Elements:
- *Anesthesia Type*
- *VTE Prophylaxis*
- *VTE Timely*

Denominator Statement: All selected surgery patients

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)

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 with procedures performed entirely by *Laparoscope*
- Patients enrolled in clinical trials
- Patients who are on warfarin 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 with hospital length of stay less than or equal to 3 calendar days
- Patients who expire perioperatively
- Patients with reasons for not administering both mechanical and pharmacological prophylaxis
- Patients who did not receive *VTE Prophylaxis* (as defined in the Data Dictionary)

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*
- *Laparoscope*
- *Perioperative Death*
- *Preadmission Warfarin*
- *Reason for Not Administering VTE Prophylaxis*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records.

Data Accuracy: Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

Measure Analysis Suggestions: Measure rates for SCIP-VTE-2 should be analyzed in conjunction with SCIP-VTE-1 in order to identify focus areas for quality improvement. Low measure rates may indicate the need for staff education or evaluation of organizational factors and processes of care. Note that rates for SCIP-VTE- 2 may be lower than those for SCIP-VTE-1 as a result of more stringent criteria. SCIP-VTE-2 requires documentation that prophylaxis was ordered and actually started, whereas SCIP-VTE-1 requires only documentation of an order.

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: Aggregate rate generated from count data reported as a proportion.

Selected References:

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- Bratzler DW, Raskob GE, Murray CK, et al. Underuse of venous thromboembolism prophylaxis for general surgery patients: physician practices in the community hospital setting. *Arch Intern Med*. 1998;158:1909-1912. PMID: 9759687.
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- Raskob GE, Hirsh J. Controversies in timing of the first dose of anticoagulant prophylaxis against venous thromboembolism after major orthopedic surgery. *Chest*. 2003 Dec;124(6 Suppl):379S-385S.
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- Borris LC, Rivaroxaban, a new, oral direct factor Xa inhibitor for thromboprophylaxis after major joint arthroplasty. *Pub Med.* April 2009; 10 6):1083-8.
- Eriksson BI, Kakkar AK, Turpie AG, Gent M, Bandel TJ, Homering M, Misselwitz F, Lassen MR. Oral rivaroxaban for the prevention of symptomatic venous thromboembolism after elective hip and knee replacement. *Pub Med.* May 2009;91(5):636-44.
- Turpie AG, Lassen MR, Davidson BL, et. Al. Rivaroxaban versus Enoxaparin for thromboprophylaxis after total knee arthroplasty *(RECORD4):* a randomized trial*. Pub Med*. May 16;373(9676):1673-80. Equb 2009 Mat 4.

VTE Prophylaxis Options for Surgery	
Surgery Type	**Recommended Prophylaxis Options[1]**
Intracranial Neurosurgery Appendix A, Table 5.17	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 LMWH[2] combined with IPC or GCS
General Surgery Appendix A, Table 5.19	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 Appendix A, Table 5.19	Any of the following: • Graduated Compression stockings (GCS) • Intermittent pneumatic compression devices (IPC)
Gynecologic Surgery Appendix A, Table 5.20	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 Appendix A, Table 5.21	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 Appendix A, Table 5.22	Any of the following started within 24 hours of surgery: • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • Warfarin • Oral Factor Xa Inhibitor (Rivaroxaban)

VTE Prophylaxis Options for Surgery	
Surgery Type	**Recommended Prophylaxis Options[1]**
Elective Total Knee Replacement Appendix A, Table 5.23	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 Inhibitor (Rivaroxaban)
Hip Fracture Surgery Appendix A, Table 5.24	Any of the following: • Low-dose unfractionated heparin (LDUH) • Low molecular weight heparin (LMWH) • Factor Xa Inhibitor (Fondaparinux) • Warfarin • Oral Factor Xa Inhibitor (Rivaroxaban)
Elective Total Hip Replacement with a reason for not administering pharmacological prophylaxis Appendix A, Table 5.22	Any of the following: • Intermittent pneumatic compression devices (IPC) • Venous foot pump (VFP)
Hip Fracture Surgery with a reason for not administering pharmacological prophylaxis Appendix A, Table 5.24	Any of the following: • Graduated Compression Stockings (GCS) • Intermittent pneumatic compression devices (IPC) • Venous foot pump (VFP)

[1] Patients who receive neuraxial anesthesia or have a documented reason for not administering pharmacological prophylaxis may pass the performance measure if either appropriate pharmacological or mechanical prophylaxis is ordered.

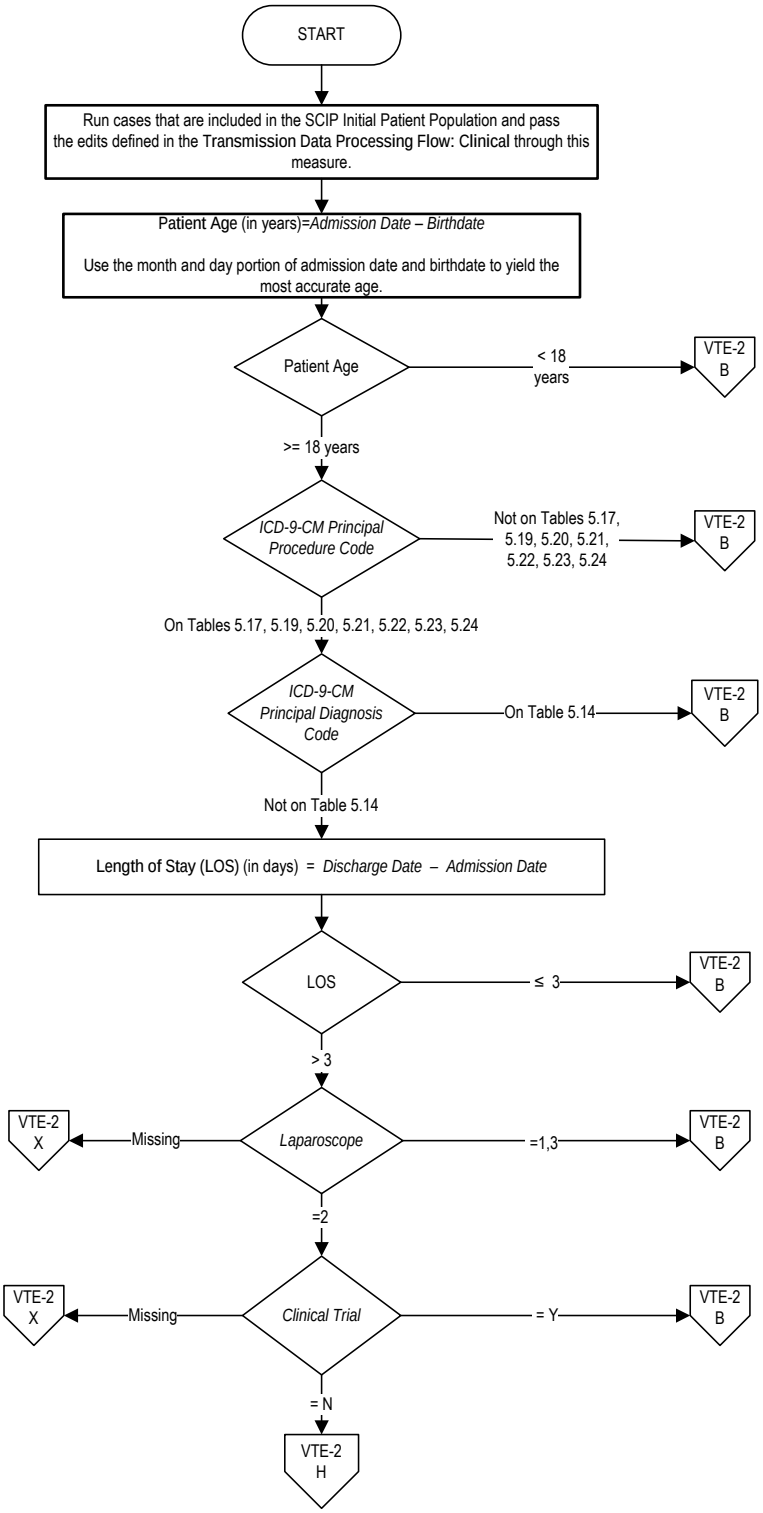
[2] Current guidelines recommend postoperative low molecular weight heparin for Intracranial Neurosurgery.

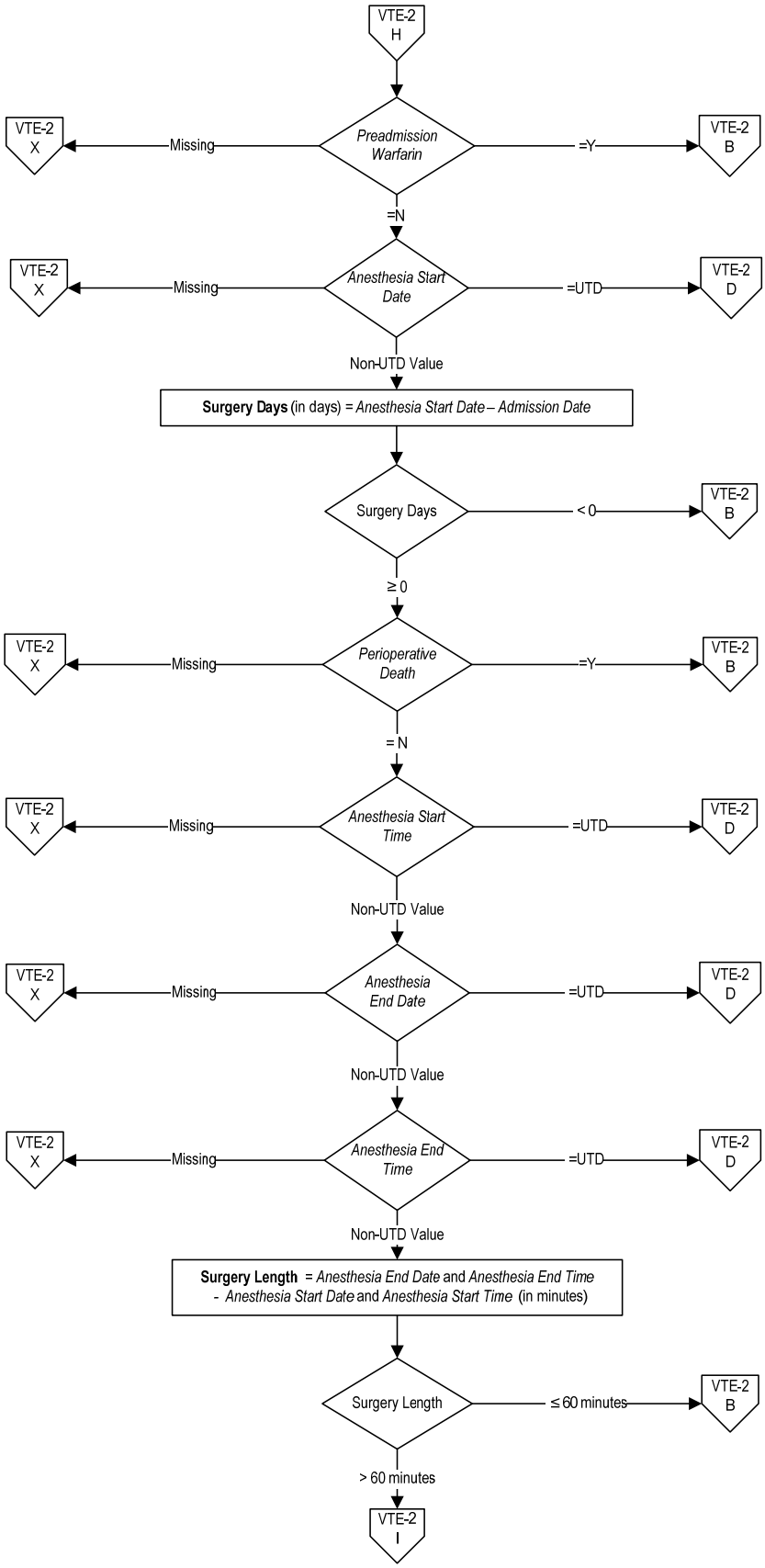
SCIP-VTE-2: Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

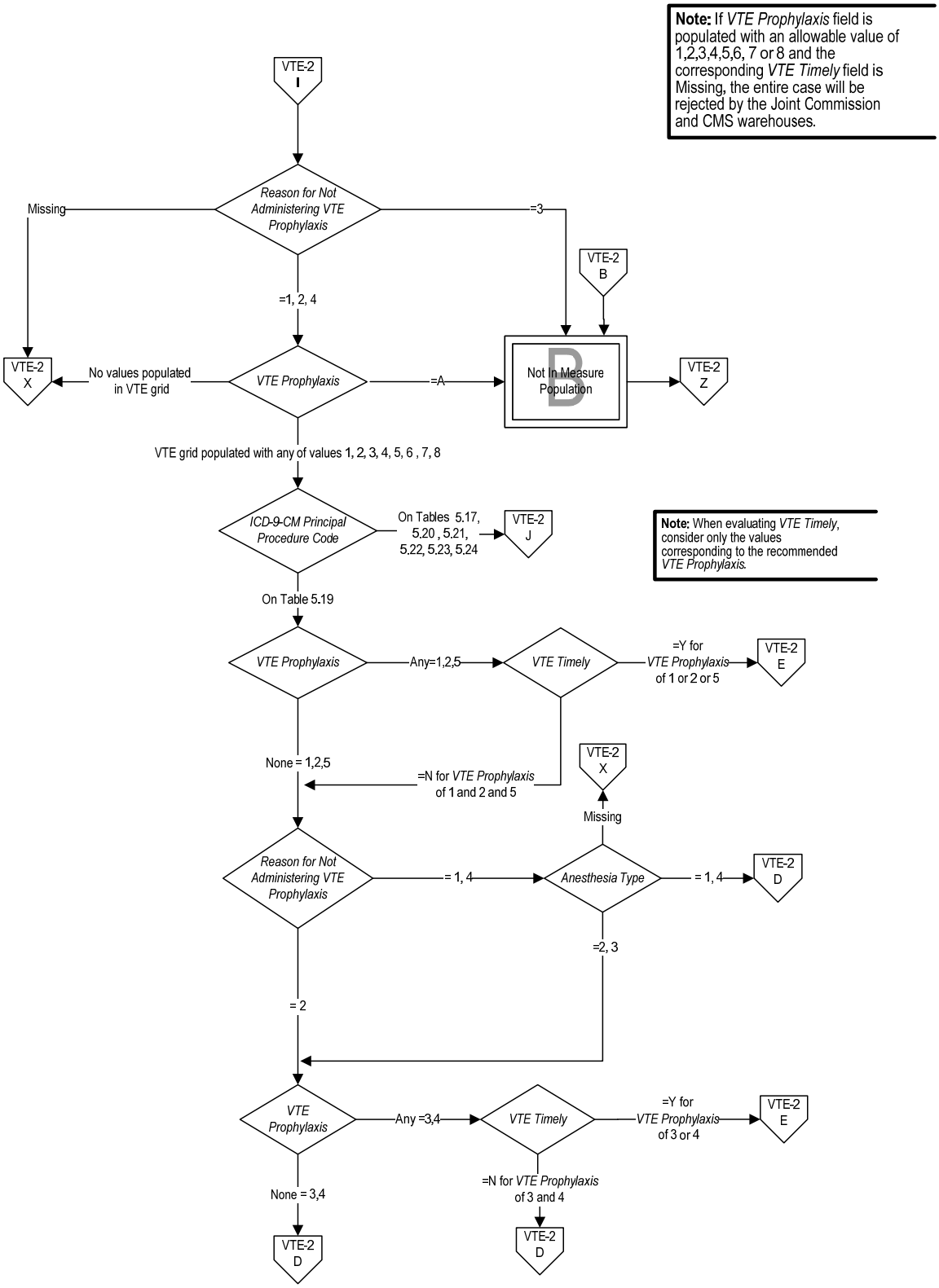
Numerator: Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis 24 hours prior to *Anesthesia Start Time* to 24 hours after *Anesthesia End Time.*

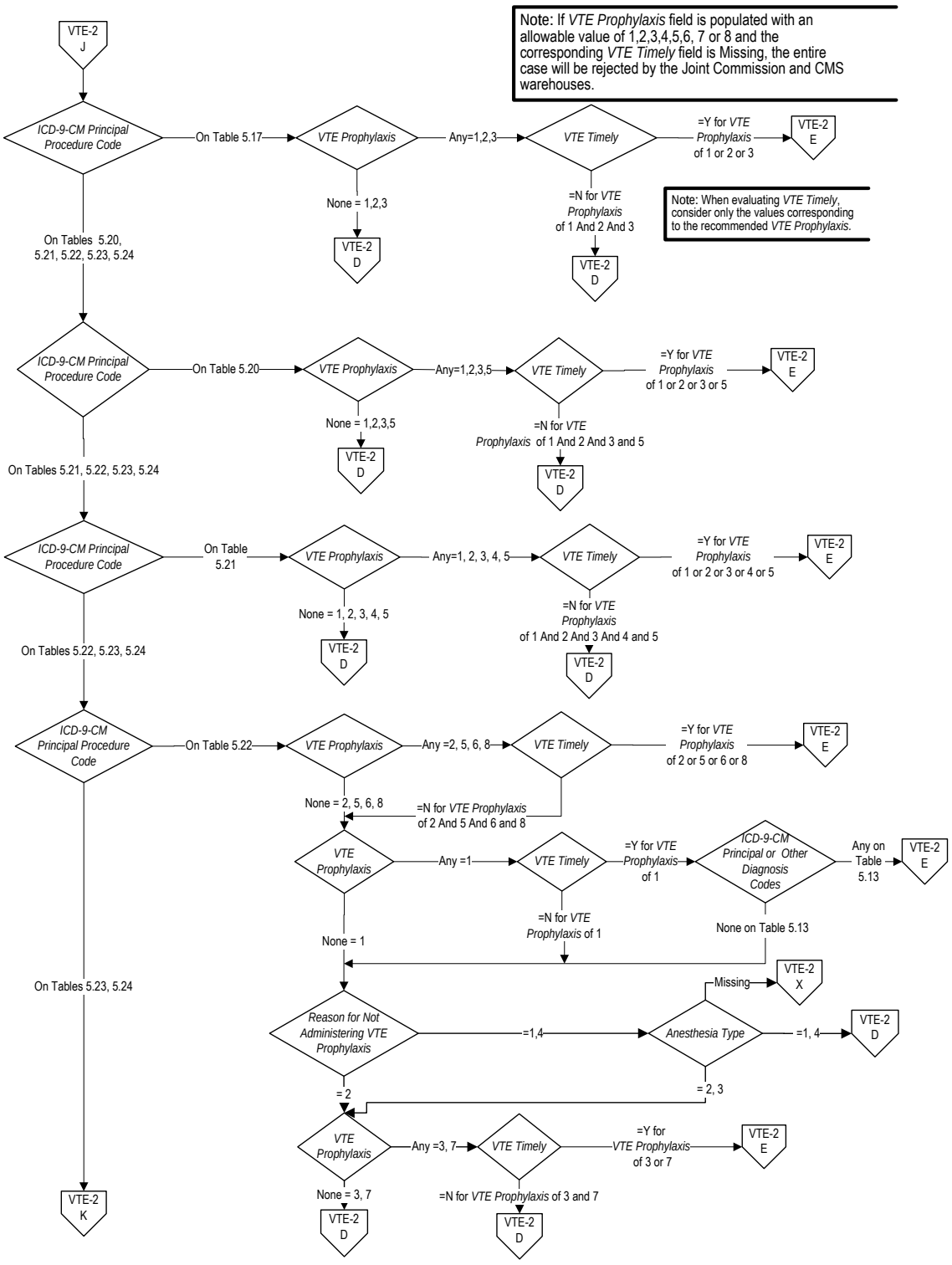
Denominator: All selected surgery patients.

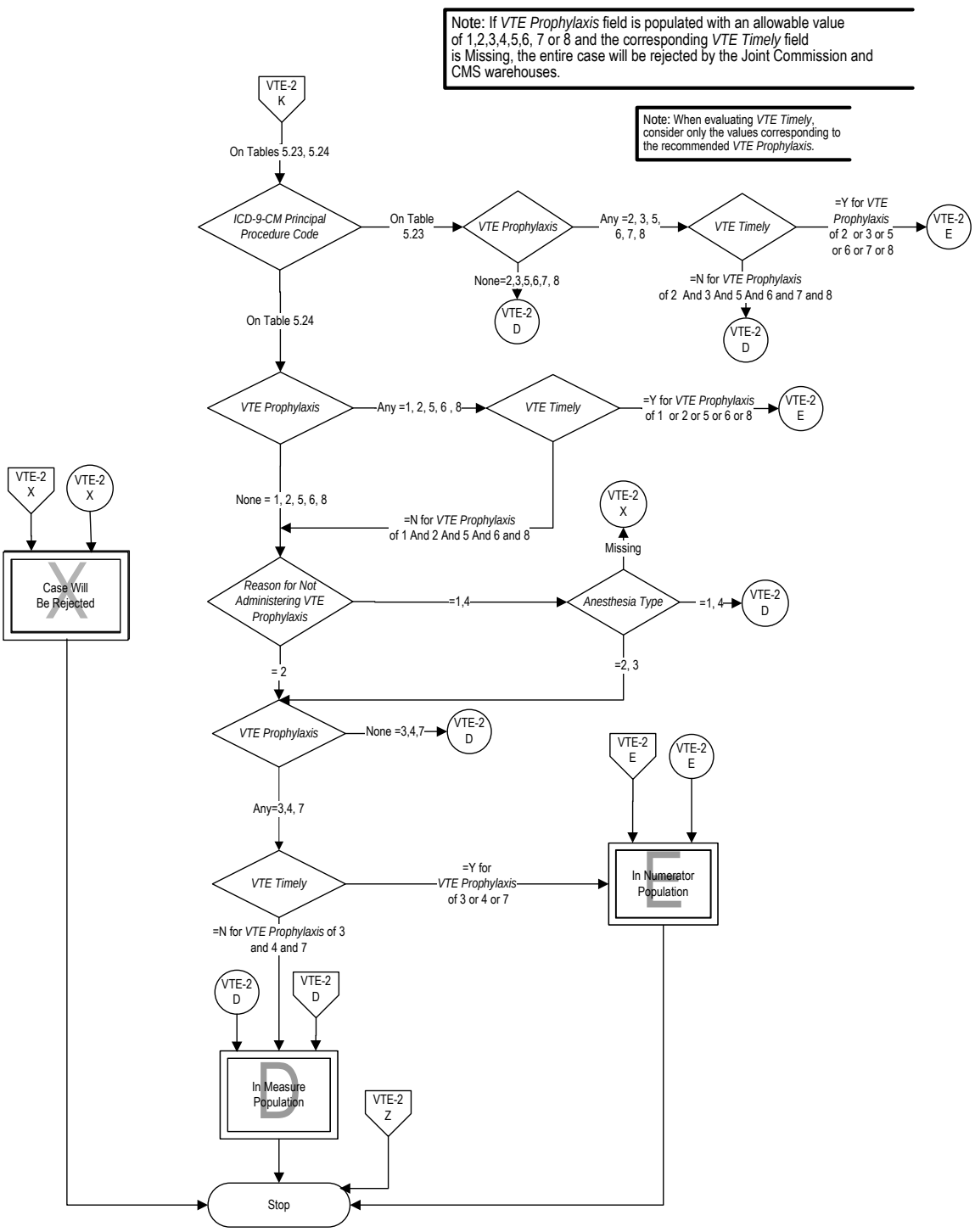
Variable Key:
Patient Age
LOS
Surgery Length
Surgery Days




VTE-2 H
Preadmission Warfarin
Missing
VTE-2 X
=Y
VTE-2 B
=N
Anesthesia Start Date
Missing
VTE-2 X
=UTD
VTE-2 D
Non-UTD Value
Surgery Days (in days) = Anesthesia Start Date – Admission Date
Surgery Days
< 0
VTE-2 B
≥ 0
Perioperative Death
Missing
VTE-2 X
=Y
VTE-2 B
= N
Anesthesia Start Time
Missing
VTE-2 X
=UTD
VTE-2 D
Non-UTD Value
Anesthesia End Date
Missing
VTE-2 X
=UTD
VTE-2 D
Non-UTD Value
Anesthesia End Time
Missing
VTE-2 X
=UTD
VTE-2 D
Non-UTD Value
Surgery Length = Anesthesia End Date and Anesthesia End Time - Anesthesia Start Date and Anesthesia Start Time (in minutes)
Surgery Length
≤ 60 minutes
VTE-2 B
> 60 minutes
VTE-2 I


Note: If VTE Prophylaxis field is populated with an allowable value of 1,2,3,4,5,6, 7 or 8 and the corresponding VTE Timely field is Missing, the entire case will be rejected by the Joint Commission and CMS warehouses.
VTE-2 I
Reason for Not Administering VTE Prophylaxis
Missing
=3
VTE-2 B
=1, 2, 4
VTE-2 X
No values populated in VTE grid
VTE Prophylaxis
=A
Not In Measure Population
D
VTE-2 Z
VTE grid populated with any of values 1, 2, 3, 4, 5, 6 , 7, 8
ICD-9-CM Principal Procedure Code
On Tables 5.17, 5.20 , 5.21, 5.22, 5.23, 5.24
VTE-2 J
Note: When evaluating VTE Timely, consider only the values corresponding to the recommended VTE Prophylaxis.
On Table 5.19
VTE Prophylaxis
Any=1,2,5
VTE Timely
=Y for VTE Prophylaxis of 1 or 2 or 5
VTE-2 E
None = 1,2,5
=N for VTE Prophylaxis of 1 and 2 and 5
VTE-2 X
Missing
Reason for Not Administering VTE Prophylaxis
= 1, 4
Anesthesia Type
= 1, 4
VTE-2 D
=2, 3
= 2
VTE Prophylaxis
Any =3,4
VTE Timely
=Y for VTE Prophylaxis of 3 or 4
VTE-2 E
None = 3,4
=N for VTE Prophylaxis of 3 and 4
VTE-2 D
VTE-2 D


VTE-2 J
Note: If VTE Prophylaxis field is populated with an allowable value of 1,2,3,4,5,6, 7 or 8 and the corresponding VTE Timely field is Missing, the entire case will be rejected by the Joint Commission and CMS warehouses.
ICD-9-CM Principal Procedure Code
On Table 5.17
VTE Prophylaxis
Any=1,2,3
VTE Timely
=Y for VTE Prophylaxis of 1 or 2 or 3
VTE-2 E
None = 1,2,3
VTE-2 D
=N for VTE Prophylaxis of 1 And 2 And 3
VTE-2 D
Note: When evaluating VTE Timely, consider only the values corresponding to the recommended VTE Prophylaxis.
On Tables 5.20, 5.21, 5.22, 5.23, 5.24
ICD-9-CM Principal Procedure Code
On Table 5.20
VTE Prophylaxis
Any=1,2,3,5
VTE Timely
=Y for VTE Prophylaxis of 1 or 2 or 3 or 5
VTE-2 E
None = 1,2,3,5
VTE-2 D
=N for VTE Prophylaxis of 1 And 2 And 3 and 5
VTE-2 D
On Tables 5.21, 5.22, 5.23, 5.24
ICD-9-CM Principal Procedure Code
On Table 5.21
VTE Prophylaxis
Any=1, 2, 3, 4, 5
VTE Timely
=Y for VTE Prophylaxis of 1 or 2 or 3 or 4 or 5
VTE-2 E
None = 1, 2, 3, 4, 5
VTE-2 D
=N for VTE Prophylaxis of 1 And 2 And 3 And 4 and 5
VTE-2 D
On Tables 5.22, 5.23, 5.24
ICD-9-CM Principal Procedure Code
On Table 5.22
VTE Prophylaxis
Any =2, 5, 6, 8
VTE Timely
=Y for VTE Prophylaxis of 2 or 5 or 6 or 8
VTE-2 E
None = 2, 5, 6, 8
=N for VTE Prophylaxis of 2 And 5 And 6 and 8
VTE Prophylaxis
Any =1
VTE Timely
=Y for VTE Prophylaxis of 1
ICD-9-CM Principal or Other Diagnosis Codes
Any on Table 5.13
VTE-2 E
None = 1
=N for VTE Prophylaxis of 1
None on Table 5.13
On Tables 5.23, 5.24
Missing
VTE-2 X
Reason for Not Administering VTE Prophylaxis
=1,4
Anesthesia Type
=1, 4
VTE-2 D
= 2
= 2, 3
VTE Prophylaxis
Any =3, 7
VTE Timely
=Y for VTE Prophylaxis of 3 or 7
VTE-2 E
None = 3, 7
VTE-2 D
=N for VTE Prophylaxis of 3 and 7
VTE-2 D
VTE-2 K


Note: If VTE Prophylaxis field is populated with an allowable value of 1,2,3,4,5,6, 7 or 8 and the corresponding VTE Timely field is Missing, the entire case will be rejected by the Joint Commission and CMS warehouses.
Note: When evaluating VTE Timely, consider only the values corresponding to the recommended VTE Prophylaxis.
VTE-2 K
On Tables 5.23, 5.24
ICD-9-CM Principal Procedure Code
On Table 5.23
VTE Prophylaxis
Any =2, 3, 5, 6, 7, 8
VTE Timely
=Y for VTE Prophylaxis of 2 or 3 or 5 or 6 or 7 or 8
VTE-2 E
None=2,3,5,6,7, 8
VTE-2 D
=N for VTE Prophylaxis of 2 And 3 And 5 And 6 and 7 and 8
VTE-2 D
On Table 5.24
VTE Prophylaxis
Any =1, 2, 5, 6 , 8
VTE Timely
=Y for VTE Prophylaxis of 1 or 2 or 5 or 6 or 8
VTE-2 E
VTE-2 X
VTE-2 X
None = 1, 2, 5, 6, 8
=N for VTE Prophylaxis of 1 And 2 And 5 And 6 and 8
VTE-2 X
Missing
Case Will Be Rejected
X
Reason for Not Administering VTE Prophylaxis
=1,4
Anesthesia Type
=1, 4
VTE-2 D
= 2
=2, 3
VTE Prophylaxis
None =3,4,7
VTE-2 D
VTE-2 E
VTE-2 E
Any=3,4, 7
VTE Timely
=Y for VTE Prophylaxis of 3 or 4 or 7
In Numerator Population
E
=N for VTE Prophylaxis of 3 and 4 and 7
VTE-2 D
VTE-2 D
In Measure Population
D
VTE-2 Z
Stop

SCIP- Venous Thromboembolism (VTE)-2: Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

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

Denominator: All selected surgery patients.

Variable Key: Patient Age, Length of Stay (LOS), Surgery Length, Surgery Days

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 or equal to 3 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 3 days, continue processing and proceed to Laparoscope.

8. Check Laparoscope
   a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   c. If Laparoscope equals 2, continue processing and proceed to Clinical Trial.

9. 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 Warfarin.

10. Check Preadmission Warfarin
   a. If Preadmission Warfarin is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Preadmission Warfarin 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 Preadmission Warfarin equals No, continue processing and proceed to Anesthesia Start Date.

11. 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.

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

13. 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.

14. 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.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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.

20. 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 3, 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 1, 2, or 4, continue processing and proceed to VTE Prophylaxis.

21. 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.
    b. If VTE Prophylaxis equals A, the case will proceed to a Measure Category Assignment of B and will not 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, or 8, 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, or 8 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.

22. 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 26 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 23 and step 25 VTE Prophylaxis or step 24 Reason for Not Administering VTE Prophylaxis for Tables 5.17, 5.20, 5.21, 5.22, 5.23, and 5.24 as steps 23 through 26 check for codes on Table 5.19 only.
    b. If the ICD-9-CM Principal Procedure Code is on Table 5.19, continue processing and recheck VTE Prophylaxis.

23. 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, or 5, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        1. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 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 5, continue processing and recheck Reason for Not Administering VTE Prophylaxis.
    b. If none of the VTE Prophylaxis equals 1, 2, or 5, continue processing and proceed to recheck Reason for Not Administering VTE Prophylaxis.

24. Recheck Reason for Not Administering VTE Prophylaxis
    a. If Reason for Not Administering VTE Prophylaxis equals 1 or 4, continue processing and proceed to Anesthesia Type.
        1. If Anesthesia Type is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
        2. If Anesthesia Type equals 1 or 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
        3. If Anesthesia Type equals 2 or 3, continue processing and recheck VTE Prophylaxis.
    b. If Reason for Not Administering VTE Prophylaxis equals 2, continue processing and recheck VTE Prophylaxis.

25. Recheck VTE Prophylaxis
    a. If any VTE Prophylaxis equals 3 or 4, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        1. If VTE Timely equals Yes for VTE Prophylaxis of 3 or 4, 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 3 and 4, 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 3 or 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

26. 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. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
            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.

27. 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. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
    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.

28. 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, 4, or 5, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        i. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 3 or 4 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 4 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, 4, 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 Procedure Code.

29. 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, continue processing and recheck VTE Prophylaxis.
    b. If the ICD-9-CM Principal Procedure Code is on Tables 5.23 or 5.24, continue processing. Proceed to step 34 and recheck ICD-9-CM Principal Procedure Code for Tables 5.23 and 5.24. Do not recheck steps 30, 31 and 33 VTE Prophylaxis or step 32 Reason for Not Administering VTE Prophylaxis.

30. Recheck VTE Prophylaxis only if the ICD-9-CM Principal Procedure Code is on Table 5.22
    a. If any VTE Prophylaxis equals 2, 5, 6, or 8, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        1. If VTE Timely equals Yes for VTE Prophylaxis of 2 or 5 or 6 or 8, 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 2 and 5 and 6 and 8, continue processing and recheck VTE Prophylaxis.
    b. If none of the VTE Prophylaxis equals 2, 5, 6, or 8, continue processing and proceed to recheck VTE Prophylaxis.

31. Recheck VTE Prophylaxis
    a. If any VTE Prophylaxis equals 1, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        1. If VTE Timely equals Yes for VTE Prophylaxis of 1, continue processing and check ICD-9-CM Principal or Other Diagnosis Codes.
            i. If any of the ICD-9-CM Principal or Other Diagnosis Codes is on Table 5.13, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population. Stop processing.
            ii. If none of the ICD-9-CM Principal or Other Diagnosis Codes is on Table 5.13, continue processing and recheck Reason for Not Administering VTE Prophylaxis.
        2. If VTE Timely equals No for VTE Prophylaxis of 1, continue processing and recheck Reason for Not Administering VTE Prophylaxis.
    b. If none of the VTE Prophylaxis equals 1, continue processing and proceed to recheck Reason for Not Administering VTE Prophylaxis.

32. Recheck Reason for Not Administering VTE Prophylaxis
    a. If Reason for Not Administering VTE Prophylaxis equals 1 or 4, continue processing and recheck Anesthesia Type.
        1. If Anesthesia Type is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
        2. If Anesthesia Type equals 1 or 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
        3. If Anesthesia Type equals 2 or 3, continue processing and recheck VTE Prophylaxis.
    b. If Reason for Not Administering VTE Prophylaxis equals 2, continue processing and proceed to recheck VTE Prophylaxis.

33. Recheck VTE Prophylaxis
    a. If any VTE Prophylaxis equals 3 or 7, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
        1. If VTE Timely equals Yes for VTE Prophylaxis of 3 or 7, 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 3 and 7, 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 3 or 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

34. Recheck ICD-9-CM Principal Procedure Code for Tables 5.23 and 5.24 only if the ICD-9-CM Principal Procedure Code is not on Tables 5.17, 5.19, 5.20, 5.21, or 5.22
    a. If the ICD-9-CM Principal Procedure Code is on Table 5.23, continue processing and recheck VTE Prophylaxis.
        1. If Any VTE Prophylaxis is equal to 2, 3, 5, 6, 7, or 8, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
            i. If VTE Timely equals Yes for VTE Prophylaxis of 2 or 3 or 5 or 6 or 7 or 8, 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 2 and 3 and 5 and 6 and 7 or 8, 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 is equal to 2, 3, 5, 6, 7, or 8, 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.

35. Recheck VTE Prophylaxis

a. If any VTE Prophylaxis equals 1, 2, 5, 6, or 8, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.

1. If VTE Timely equals Yes for VTE Prophylaxis of 1 or 2 or 5 or 6 or 8, 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 5 and 6 and 8, continue processing and recheck Reason for Not Administering VTE Prophylaxis.

b. If none of the VTE Prophylaxis equals 1, 2, 5, 6, or 8, continue processing and proceed to recheck Reason for Not Administering VTE Prophylaxis.

36. Recheck Reason for Not Administering VTE Prophylaxis

a. If Reason for Not Administering VTE Prophylaxis equals 1 or 4, continue processing and recheck Anesthesia Type.

1. If Anesthesia Type is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
2. If Anesthesia Type equals 1 or 4, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
3. If Anesthesia Type equals 2 or 3, continue processing and recheck VTE Prophylaxis.

b. If Reason for Not Administering VTE Prophylaxis equals 2, continue processing and proceed to recheck VTE Prophylaxis.

37. Recheck VTE Prophylaxis

a. If none of the VTE Prophylaxis equals 3, 4, or 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.

b. If any VTE Prophylaxis equals 3, 4, or 7, continue processing and check VTE Timely. Note: When evaluating VTE Timely consider only the values corresponding to the recommended VTE Prophylaxis.
   1. If VTE Timely equals Yes for VTE Prophylaxis of 3 or 4 or 7, 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 3 or 4 or 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.