BMC2 Vascular Surgery Data Dictionary

Blue Cross Blue Shield of Michigan
Vascular Surgery Registry
Data Field Definitions

This data dictionary contains definitions for all data fields and in the vascular surgery and carotid registries.

Dictionary updated for discharge date starting 1.1.2025

ABI

Data Abstraction Instructions:

For each of the listed studies, indicate if the study was performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months. Also, for each of the listed studies that were performed, indicate if the study was normal or abnormal or include value where applicable. If study was not performed, record the study was not done.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Enter all available data for ABIs, TBIs, and toe pressures that are valid for the present procedure (include both right and left, regardless of the operative side).
ABI Compressible = Enter Yes for ABI Compressible when the value is <1.4.

Selections:

- Yes
  - Right Pre Procedure ABI Compressible
    - Yes
      - Enter value
    - No
  - Left Pre procedure ABI Compressible
    - Yes
      - Enter value
    - No
- No

Required:
Yes
Maximum:
1.39

ACE Inhibitor (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking an ACE Inhibitor at the time of follow up.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

Selections:

- Yes
- No

Supporting Definitions:

Examples of ACE Inhibitors are

Generic Name	Brand Name
Benazepril	Lotensin
Benazepril + HCTZ *	Lotensin HCT
Benazepril + Amlodipine *	Lotrel
Captopril	Capoten
Captopril + HCTZ *	Capozide
Cilazapril	Inhibace
Cilazapril + HCTZ *	Inhibace Plus
Enalapril	Vasotec, Enalaprilat
Enalapril + HCTZ *	Vaseretic
Enalapril + Felodipine *	Lexxel
Fosinopril	Monopril
Fosinopril + HCTZ *	Monopril HCT
Lisinopril	Zestril, Prinivil
Lisinopril + HCTZ *	Prinzide, Zestoretic
Moexipril	Univasc
Moexipril + HCTZ *	Uniretic
Perindopril	Aceon
Quinapril	Accupril
Quinapril + HCTZ *	Accuretic
Trandolapril	Mavik
Trandolapril + Verapamil *	Tarka

*Denotes a combination medication.

Required:
Yes

ACE Inhibitors

Data Abstraction Instructions:

Record if an ACE Inhibitor was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking an ACE Inhibitor before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking an ACE Inhibitor before admission.

Medications at Discharge?

- Enter Yes if an ACE Inhibitor was documented as a new medication or continued at discharge.
- Enter No if an ACE Inhibitor was not documented as a new medication or was discontinued at discharge.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

ACE Inhibitors

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Benazepril	Lotensin
Benazepril + HCTZ *	Lotensin HCT
Benazepril + Amlodipine *	Lotrel
Captopril	Capoten
Captopril + HCTZ *	Capozide
Cilazapril	Inhibace
Cilazapril + HCTZ *	Inhibace Plus
Enalapril	Vasotec, Enalaprilat
Enalapril + HCTZ *	Vaseretic
Enalapril + Felodipine *	Lexxel
Fosinopril	Monopril
Fosinopril + HCTZ *	Monopril HCT
Lisinopril	Zestril, Prinivil
Lisinopril + HCTZ *	Prinzide, Zestoretic
Moexipril	Univasc
Moexipril + HCTZ *	Uniretic
Perindopril	Aceon
Quinapril	Accupril
Quinapril + HCTZ *	Accuretic
Trandolapril	Mavik
Trandolapril + Verapamil *	Tarka

*** Denotes a combination medication.**

Required:
Yes

ASA (American Society of Anesthesiologists) Class (CEA)

Data Abstraction Instructions:

Enter the ASA class as documented by the anesthesia team.

Selections:

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5

Supporting Definitions:

Class 1 = normal/healthy
Class 2 = mild systemic disease
Class 3 = severe systematic disease
Class 4 = severe systematic disease that is a constant threat to life
Class 5 = moribund/not expected to survive without operation

Required:
Yes

ASA (American Society of Anesthesiologists) Class

Data Abstraction Instructions:

Enter the ASA Class as documented by the anesthesia team.

Selections:

- Does not apply
- Class 1 – normal/healthy
- Class 2 – mild systemic disease
- Class 3 – severe systemic disease
- Class 4 – severe systemic disease that is a constant threat to life
- Class 5 – moribund/not expected to survive without operation

Supporting Definitions:

Does not apply = the anesthesia team is not involved in the patients care during the procedure.

Required:
Yes

Abdomen Explored (EVAR)

Data Abstraction Instructions:

The aneurysm was repaired endovascularly, but the abdomen was opened to remove the clot before leaving the OR.

Selections:

- Yes
- No

Required:
Yes

Abdomen Explored (OAAA)

Data Abstraction Instructions:

Indicate if the abdomen was explored by the surgeon to evacuate hematoma, but not to repair rupture.

Selections:

- Yes
- No

Required:
Yes

Abdominal/Back Pain (Indications)

Data Abstraction Instructions:

Indicate if patient presented with abdominal and/or back pain attributed to the aneurysm.

Selections:

- Yes
- No

Required:
Yes

Acute Evolving Stroke

Data Abstraction Instructions:

Indicate if the patient has experienced an acute evolving stroke with ischemia which is ongoing and progressing at the time of the procedure.

Selections:

- Yes
- No

Supporting Definitions:

Acute evolving stroke includes all of the following:

- Any sudden development of neurological deficits attributable to cerebral ischemia and/or infarction.
- Onset of symptoms occurring within prior three days and ongoing at time of procedure.
- The event is marked by progressively worsening symptoms.

Note: Possible symptoms include but are not limited to the following: numbness or weakness of the face or body; difficulty speaking or understanding; blurred or decreased vision; dizziness; or loss of balance and coordination.

Required:
Yes

Acute Limb Ischemia

Data Abstraction Instructions:

Indicate if the procedure is performed for acute limb Ischemia (ALI).

Selections:

- Yes
- No

Supporting Definitions:

ALI is defined as a sudden decrease in limb perfusion that threatens limb viability and represents a major vascular emergency. The clinical presentation is acute if it occurs within 14 days after symptom onset. Symptoms of ALI include pain, pallor (paleness) paralysis (loss of muscle function), pulse deficit, paresthesia (tingling, numbness, burning, prickling sensation), and poikilothermia (cold or cool extremity when in a warm room).

Reference: ALI: An Update on Diagnosis and Management. *Journal of Clinical Medicine.* Doi: https://dx.doi.org/10.3390%2Fjcm8081215

Critical Limb Ischemia (CLI) is different from ALI. CLI is a progressive disease state. It is defined as ischemic rest pain, a nonhealing wound/ulcer, or gangrene for more than two weeks with signs of poor blood flow.

Reference: AHA Outlines Diagnosis, Treatment Options for Underrecognized Critical Limb Ischemia. Tctmd.com. https://www.tctmd.com/news/aha-outlines-diagnosis-treatment-options-underrecognized-critical-limb-ischemia

Required:
Yes

Additional Planned Procedures

Data Abstraction Instructions:

Indicate if additional procedures were performed.

Selections:

- Yes
  - Femoral Endarterectomy
  - Thromboembolectomy
  - Other Arterial Reconstruction
- No

Required:
Yes

Additional Procedure (Follow-up)

Data Abstraction Instructions:

Indicate if an additional procedure, either stenting or carotid endarterectomy, was performed on the same vessel as the original carotid procedure during follow-up. Select all that apply.

If the patient states they was an additional procedure performed during a phone call, verify the information from the patient's medical record or physician.

Selections:

- Yes
  - CAS
  - CEA
    - Enter date of occurrence
- No

Required:
Yes

Additional graft components

Data Abstraction Instructions:

Indicate if additional graft components were implanted other than iliac limbs, iliac extensions, stents, or bridging devices. When selecting the option Iliac Branch Device, two additional fields will display. Enter the distal hypogastric (internal iliac) diameter and the distal external iliac diameter. This field is a multi-select field.

Selections:

- Aortic cuff
- Aortic screws
- Right iliac branch device
    - **Distal hypogastric diameter**
        - Documented
            - Enter value (mm)
        - Not Documented
    - **Distal external iliac diameter**
        - Documented
            - Enter value (mm)
        - Not Documented
- Left iliac branch device
    - **Distal hypogastric diameter**
        - Documented
            - Enter value (mm)
        - Not Documented
    - **Distal external iliac diameter**
        - Documented
            - Enter value (mm)
        - Not Documented
- Additional main body
- Other

Supporting Definitions:

Aortic cuff = an extension device used to provide a seal at the proximal aortic neck. Enter suprarenal endograft or suprarenal extension as aortic cuff.

Aortic screws = devices implanted through the aorta and fix the endograft to the aorta. Aortic screws stop the endograft from migrating. May also be call endo anchors.

Iliac Brach Device = a bifurcated device that is implanted in the external iliac artery and the internal iliac artery (hypogastric). An additional component is implanted into the hypogastric. When an Iliac Bridging Endoprosthesis (IBE) is attached to an iliac limb, enter the distal seal zone diameter of the iliac limb as you would typically do. Enter the diameter of the IBE in the Distal External Iliac Diameter field under Additional Graft Components.

Distal hypogastric diameter = The distal diameter of the portion of the IBE that is implanted into the hypogastric (internal iliac artery).

Distal external iliac diameter = The distal diameter of the portion of the IBE that is implanted into the external iliac artery.

Required:
Yes

Air Kerma

Data Abstraction Instructions:

Enter the Air kerma for the EVAR procedure.

Selections:

- Documented
    - Enter value in textbox
        - Select an option
        - mGy
        - Gy
- Not documented

Supporting Definitions:

Air kerma is used to characterize the intensity of the x-ray beam[2].

Reference: Dixon, R.G., FSIR, & Ogden, K.M. (2016, August). A field guide to radiation safety terminology: An overview of key radiation dosimetric quantities and terms. Endovascular Today,15(8), 48-52. https://evtoday.com/articles/2016-aug/a-field-guide-to-radiation-safety-terminology

Required:
Yes

Albumin

Data Abstraction Instructions:

Enter the albumin value within 6 months before the current procedure. If no value is available pre-procedure, a value drawn during the current hospitalization may be used (if multiple values are available, enter the value closest to the procedure). If there is no value, mark "Not drawn."

The albumin reference range 3.5 - 4.9 g/dL. Enter 7 for an albumin value that is >7.

Selections:

- Yes
  - Enter value g/dl
- Not drawn

Required:
Yes
Minimum:
0
Maximum:
7

Ambulation (Follow-up)

Data Abstraction Instructions:

Indicate the ambulation status of the patient during follow-up. Ambulation can be obtained through the medical record or a phone call to the patient.

Selections:

- Independent
- Ambulates with assistance
- Wheelchair
- Bedridden
- Not documented

Required:
Yes

Ambulation Pre-Procedure

Data Abstraction Instructions:

Indicate the best ambulation category experienced within one month of admission. Indicate the best functional level if the patient is in-between categories. Example: Patient uses wheelchair but is able to move around the house with the assistance of a walker, enter "Ambulatory with assistance."

Enter Not documented if documentation of patient's pre-procedure ambulation status is unavailable.

Selections:

- Ambulatory
- Ambulates with assistance
- Wheelchair
- Bedridden
- Not documented

Required:
Yes

Amputation (Follow-up)

Data Abstraction Instructions:

Indicate if the patient had an amputation during the follow-up timeframe. If yes, indicate the level of amputation. If the patient had multiple amputations within the follow-up timeframe, enter the date and level of the first amputation that was performed.

If the patient were readmitted for an amputation on the side of the procedure, enter the outcomes of readmission and amputation.

Amputation may be obtained through a phone call with the patient.

Selections:

- Yes
  - Left AKA
  - Left BKA
  - Left foot
  - Left metatarsal
  - Left digit
  - Left hip disarticulation
  - Right AKA
  - Right BKA
  - Right foot
  - Right metatarsal
  - Right digit
  - Right hip disarticulation
    - Enter Date of first amputation
- No
- Not documented

Supporting Definitions:

Required:
Yes

Amputation (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if an amputation is performed at any time during the procedure.

Selections:

- Yes
  Select type of amputation
  - Left hip disarticulation
  - Left AKA
  - Left BKA
  - Left foot
  - Left metatarsal
  - Left digit
  - Right hip disarticulation
  - Right AKA
  - Right BKA
  - Right foot
  - Right metatarsal
  - Right digit
- No

Required:
Yes

Amputation (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if an amputation is performed at any time post procedure. When entering amputation as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the amputation performed.

If the patient had more than one amputation performed post-procedure and before discharge, enter the date and type of the first amputation performed.

Selections:

- Yes
  - Enter date of first occurrence post procedure
  - **Select type of amputation**
  - Left hip disarticulation
  - Left AKA
  - Left BKA
  - Left foot
  - Left metatarsal
  - Left digit
  - Right hip disarticulation
  - Right AKA
  - Right BKA
  - Right foot
  - Right metatarsal
  - Right digit
- No

Required:
Yes

Anastomotic Felt Reinforcement

Data Abstraction Instructions:

Indicate if Felt Reinforcement was used at the anastomosis site. The felt reinforcement may be documented as a "pledget".

Selections:

- Yes
- No

Required:
Yes

Anesthesia (CAS)

Data Abstraction Instructions:

Indicate if the patient received general, local, or MAC anesthesia during the current procedure. If more than one given, enter the strongest form of anesthesia.

Selections:

- Local
- General
- MAC

Supporting Definitions:

Local = numbing medication is injected at or near the operative site. The patient is awake during the procedure.

General = medicine that is administered by the anesthesia team through a mask or IV. The patient is intubated. A combination of medications are used such as propofol, etomidate, ketamine, versed, fentanyl, isoflurane, or desflurane.

MAC = Monitored anesthesia care. The anesthesia team, physician, or nurse administers anesthesia with sedation. The patient is awake but groggy. Supplemental oxygen is applied. Also call conscious sedation.

Required:
Yes

Anesthesia (CEA)

Data Abstraction Instructions:

Indicate if the patient received general anesthesia, local anesthesia, or regional anesthesia during the current procedure. If more than one given, enter the strongest form of anesthesia.
Ex: Local + Regional = Regional.

Selections:

- General
- Local
- Regional

Supporting Definitions:

General = medicine that is administered by the anesthesia team through a mask or IV. The patient is intubated. A combination of medications are used such as propofol, etomidate, ketamine, versed, fentanyl, isoflurane, or desflurane.

Local = numbing medication is injected at or near the operative site. The patient is awake during the procedure.

Regional = A nerve block that affects cervical nerves from C2 to C4. The patient is awake during the procedure. The most frequently used regional anesthetic techniques for this purpose are superficial, intermediate, and deep cervical block.

Required:
Yes

Anesthesia Type (VS)

Data Abstraction Instructions:

Enter the type of anesthesia administered during the procedure.

Selections:

- Local
- Epidural
- Regional
- Spinal
- General
- Epidural + General
- MAC

Required:
Yes

Aneurysm anatomy

Data Abstraction Instructions:

Enter the aneurysm anatomy as described in the pre-imaging or surgical dictation.

Selections:

- Yes
  - Fusiform
  - Saccular
  - Both
  - Not documented
- No

Supporting Definitions:

Both = the aneurysm anatomy is documented as a bi-lobed aneurysm with one lobe having fusiform anatomy and one lobe having saccular anatomy.

Required:
Yes

Aneurysm location

Data Abstraction Instructions:

Enter the aneurysm location as described in the pre-imaging or surgical dictation.

Selections:

- Yes
  - Infrarenal
  - Juxtarenal
  - Suprarenal
  - Not documented
- No

Supporting Definitions:

Infrarenal = The top of the aneurysm is below the renal arteries. There is space between the top of the aneurysm and the renal arteries called the renal neck.

Juxtarenal = The top of the aneurysm is at the renal arteries.

Suprarenal = The top of the aneurysm is above the renal arteries and involves the SMA.

Required:
Yes

Angina CCS Class III or IV w/in 6 weeks

Data Abstraction Instructions:

Indicate if the patient experienced anginal symptoms equivalent to the Canadian Cardiovascular Society (CCS) Classification System Class III or IV within 6 weeks prior to the procedure.

Selections:

- Yes
- No

Supporting Definitions:

CCS Class III or Class IV are defined as:

Class III = Marked limitation of ordinary activity; for example, angina occurs walking one or two blocks on the level or climbing one flight of stairs in normal conditions and at a normal pace.

Class IV = Inability to carry on any physical activity without discomfort - angina syndrome may be present at rest.

Required:
Yes

Angina/Abnormal Cardiac Stress Test

Data Abstraction Instructions:

Indicate if the patient had episodes of angina or an abnormal cardiac stress test.

Selections:

- Yes
- No

Supporting Definitions:

Indication for revascularization is cardiac ischemia secondary to impaired blood flow to coronary artery bypass graft (e.g., left subclavian stenosis in a patient with an in situ left internal mammary artery bypass graft).

For informational purposes, one of the following criteria are necessary:

- Angina at rest (usually prolonged >20 mins)
- New onset (less than two months) exertional angina of at least Canadian cardiovascular Society Classification (CCSC) class III
- Recent (less than two months) acceleration of angina reflected by an increase in severity of at least one CCSC class to at least CCSC class III. The patient must also NOT have any biochemical evidence of myocardial necrosis.

Required:
Yes

Angiotensin II Receptor Antagonist (ARBs)

Data Abstraction Instructions:

Record if an Angiotensin II Receptor Antagonist (ARB) was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking an ARB before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking an ARB before admission.

Medications at Discharge?

- Enter Yes if an ARB was documented as a new medication or continued at discharge.
- Enter No if an ARB was not documented as a new medication or was discontinued at discharge.

For Combination Therapy record as follows: In the case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

Angiotensin II Receptor Antagonist (ARBs)

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Azilsartan	Edarbi
Candesartan	Atacand
Candesartan + HCTZ *	Atacand HCT
Eprosartan	Teveten
Eprosartan + HCTZ *	Teveten HTC
Irbesartan	Avapro
Irbesartan + HCTZ *	Avalide
Losartan	Cozaar
Losartan + HCTZ *	Hyzaar
Olmesartan	Benicar
Olmesartan + Amlodipine *	Azor
Olmesartan + HCTZ *	Benicar HCT
Olmesartan + Amlodipine + HCTZ *	Tribenzor
Telmisartan	Micardis
Telmisartan + HCTZ *	Micardis HCT
Valsartan	Diovan
Valsartan + HCTZ *	Diovan HCT
Valsartan + Amlodipine *	Exforge
Valsartan + Amlodipine + HCTZ *	Exforge HCT

*** Denotes a combination medication.**

Required:
Yes

Angiotensin II Receptor Blockers (ARBs) (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking an ARB at the time of follow up.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

Selections:

- Yes
- No

Supporting Definitions:

Examples of ARBs are

Generic Name	Brand Name
Azilsartan	Edarbi
Candesartan	Atacand
Candesartan + HCTZ *	Atacand HCT
Eprosartan	Teveten
Eprosartan + HCTZ *	Teveten HTC
Irbesartan	Avapro
Irbesartan + HCTZ *	Avalide
Losartan	Cozaar
Losartan + HCTZ *	Hyzaar
Olmesartan	Benicar
Olmesartan + Amlodipine *	Azor
Olmesartan + HCTZ *	Benicar HCT
Olmesartan + Amlodipine + HCTZ *	Tribenzor
Telmisartan	Micardis
Telmisartan + HCTZ *	Micardis HCT
Valsartan	Diovan
Valsartan + HCTZ *	Diovan HCT
Valsartan + Amlodipine *	Exforge
Valsartan + Amlodipine + HCTZ *	Exforge HCT

*Denotes a combination medication

Required:
Yes

Antibiotics Pre Procedure (CEA)

Data Abstraction Instructions:

Indicate if an antibiotic was given within one hour of incision (2 hours for Vancomycin).

Selections:

- Yes
- No

Required:
Yes

Antibiotics Pre Procedure (VS)

Data Abstraction Instructions:

Indicate if an antibiotic was given within one hour of incision (2 hours for Vancomycin), and an antibiotic redosed +/- 30 minutes of the 4-hour or 6-hour mark.

The Redosed (Q4 hours) field will display when Cefazolin is entered, and the length of the procedure is >3.5 hours. The Redosed (Q6 hours) field will display when Clindamycin is entered, and the length of the procedure is >5.5 hours.

Selections:

- Yes
  - Cefazolin
    - Redosed (Q4 hours)
      - Yes
      - No
  - Clindamycin
    - Redosed (Q6 hours)
      - Yes
      - No
  - On scheduled antibiotic
  - Other
- No

Supporting Definitions:

On scheduled antibiotic = An inpatient did not receive the pre procedure antibiotic within 1 hour of incision time (2 hours for Vancomycin) because the patient is on a scheduled antibiotic.

Required:
Yes

Anticoagulant (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking an Anticoagulant at the time of follow up and if there is a contraindication to Anticoagulants.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to an Anticoagulant.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to an Anticoagulant.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No
    - Contraindicated for Anticoagulant
        - Yes
        - No

Supporting Definitions:

Some examples of anticoagulants are

Generic Name	Brand Name
Apixaban	Eliquis
Dabigatran	Pradaxa
Edoxaban	Savaysa
Fondaparinux	Arixtra
Rivaroxaban	Xarelto
Warfarin	Coumadin

Required:
Yes

Antiplatelets (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking antiplatelets (other than ASA) at the time of the follow up and if there is a contraindication to antiplatelets.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No
    - Contraindicated for Antiplatelets:
        - Yes
        - No

Supporting Definitions:

Some examples of antiplatelet medications are

Generic Name	Brand Name
Cilostazol	Pletal
Clopidogrel	Plavix
Prasugrel	Effient
Ticagrelor	Brilinta

Required:
Yes

Aortic Arch Type

Data Abstraction Instructions:

Indicate the patient's aortic arch type configuration.

Selections:

- Type I
- Type II
- Type III
- Unknown

Supporting Definitions:

The three types of aortic arch are based on the relationship of the innominate artery to the aortic arch. The more inferior the origin of the target artery (i.e., Type II or III aortic arch), the greater the difficulty in gaining access to the carotid artery.

Type I = The Type I aortic arch is characterized by origin of all three great vessels in the same horizontal plane as the outer curvature of the aortic arch.

Type II = In the Type II aortic arch, the innominate artery originates between the horizontal planes of the outer and inner curvatures of the aortic arch.

Type III = In the Type III aortic arch, the innominate artery originates below the horizontal plane of the inner curvature of the aortic arch.

Unknown = The aortic arch type is not documented.

Required:
Yes

Apixaban (Eliquis)

Data Abstraction Instructions:

Record if apixaban (Eliquis) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking apixaban before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking apixaban before admission.

Medications at Discharge?

- Enter Yes if apixaban was documented as a new medication or continued at discharge.
- Enter No if apixaban was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

Selections:

- Given
- Not Given
- Contraindicated for Apixaban (Eliquis)
    - Yes
    - No

Required:
Yes

Apixaban (Eliquis) dose (mg)

Data Abstraction Instructions:

Enter the total daily dosage documented for apixaban (Eliquis) in milligrams (mg). For example, if apixaban 2.5mg BID is documented, enter 5 mg.
This field will accept decimals.

Selections:

Enter dose in text box (mg)

Required:
Yes
Suffix:
mg
Minimum:
1
Maximum:
300

Arm Claudication

Data Abstraction Instructions:

Indicate if the patient has arm pain caused by poor circulation.

Selections:

- Yes
- No

Supporting Definitions:

Refers to cramping pains in the arms caused by poor circulation of the blood in the arteries to the arm muscles during exercise. True claudication is relieved with rest from exercise.

Required:
Yes

Arterial Injury

Data Abstraction Instructions:

Indicate if an arterial injury or occlusion occurred, requiring an intervention, and document what intervention was performed.

Selections:

- Yes
  - Select option for injury
    - Femoral
    - Iliac
    - Renal
    - Aorta
    - Multiple
  - Select option for repair
    - Stent/PTA
    - Stent/Graft
    - Open Repair
    - Not documented
- No

Required:
Yes

Arteriotomy Patch Used

Data Abstraction Instructions:

Indicate if there was closure of the internal carotid arteriotomy with a patch during the carotid endarterectomy (CEA) procedure.

Selections:

- Yes
- No

Required:
Yes

Aspirin (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking aspirin at the time of follow up and if there is a contraindication to aspirin.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

Selections:

- Yes
- No
    - Contraindicated for Aspirin:
        - Yes
        - No

Required:
Yes

Aspirin

Data Abstraction Instructions:

Record if aspirin was Given, Not Given, and/or Contraindicated at admission and/or discharge. Also record if aspirin was Given or Not Given before the procedure (from admission or previous procedure until the current procedure). To enter Yes for aspirin, the minimum dose should be at least 75mg.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking aspirin before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking aspirin before admission.

Medications at Discharge?

- Enter Yes if aspirin was documented as a new medication or continued at discharge.
- Enter No if aspirin was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to aspirin.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to aspirin.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Aspirin PRE procedure

Data Abstraction Instructions:

Indicate if aspirin was given before the procedure (from admission or previous procedure until the current procedure) and if aspirin is contraindicated.

To enter Yes for aspirin, the minimum dose should be at least 75mg.

Contraindicated
Yes = the patient has an allergy, sensitivity, or adverse reaction to aspirin.
No = the patient does not have an allergy, sensitivity, or adverse reaction to aspirin.

Selections:

- Given
- Not Given
- Contraindicated
  - Yes
  - No

Required:
Yes

Asymptomatic

Data Abstraction Instructions:

Indicate if patient presents for this hospitalization without showing any symptoms of AAA.

Selections:

- Yes
- No

Supporting Definitions:

The size of the aneurysm has reached a point where surgery is determined necessary.

Required:
Yes

Atrial Fibrillation (AF) / Aflutter

Data Abstraction Instructions:

Indicate if the patient has a history of either paroxysmal atrial fibrillation or chronic atrial fibrillation/flutter prior to the VS intervention. This includes any prior history, even if the patient is not currently in that rhythm.

Selections:

- Yes
- No

Required:
Yes

Atropine DURING Procedure

Data Abstraction Instructions:

Record if atropine was Given or Not Given during a CAS or CEA procedure (atropine was given during the time the patient enters the room until the time the patient leaves the room).

Selections:

- Given
  - If given, enter During.
- Not Given

Required:
Yes

BP discrepancy

Data Abstraction Instructions:

Indicate if there is a >50 mm difference in systolic BP between L and R arms.

Selections:

- Yes
- No

Supporting Definitions:

This may be seen in subclavian stenosis.

Required:
Yes

Balloon Diameter (CAS)

Data Abstraction Instructions:

Indicate the diameter of the largest balloon used.

Selections:

- Documented
  - Enter value in mm
- Not documented

Required:
Yes
Suffix:
mm
Minimum:
0
Maximum:
20

Ballooning/Post Dilation Performed (CAS)

Data Abstraction Instructions:

Indicate if the carotid artery was ballooned or post dilation was performed after the stent was implanted.

Selections:

- Yes
- No

Required:
Yes

Beta Blocker (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking a beta blocker at the time of follow up.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No

Supporting Definitions:

Examples of beta blockers are

Generic Name	Brand Name
Acebutolol	Sectral
Atenolol	Tenormin
Atenolol + Chlorthalidone *	Tenoretic
Betaxolol	Kerlone
Bisoprolol	Zebeta
Bisoprolol + HCTZ *	Ziac
Carvedilol	Coreg
Esmolol	Brevibloc
Labetalol	Trandate
Metroprolol	Lopressor, Toprol
Metroprolol + HCTZ *	Lopressor HCT, Dutoprol
Nadolol	Corgard
Nadolol + Bendroflumethiazide *	Corzide
Nebivolol	Bystolic
Penbutolol	Levatol
Pindolol	Visken
Propranolol	Inderal, InnoPran
Propranolol + HCTZ *	Inderide
Timolol	Blocadren
Timolol + HCTZ *	Timolide

*Denotes a combination medication

Required:
Yes

Beta Blockers

Data Abstraction Instructions:

Record if a Beta Blocker was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking a Beta Blocker before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking a Beta Blocker before admission.

Medications at Discharge?

- Enter Yes if a Beta Blocker was documented as a new medication or continued at discharge.
- Enter No if a Beta Blocker was not documented as a new medication or was discontinued at discharge.

For Combination Therapy record as follows: In the case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Acebutolol	Sectral
Atenolol	Tenormin
Atenolol + Chlorthalidone *	Tenoretic
Betaxolol	Kerlone
Bisoprolol	Zebeta
Bisoprolol + HCTZ *	Ziac
Carvedilol	Coreg
Esmolol	Brevibloc
Labetalol	Trandate
Metroprolol	Lopressor, Toprol
Metroprolol + HCTZ *	Lopressor HCT, Dutoprol
Nadolol	Corgard
Nadolol + Bendroflumethiazide *	Corzide
Nebivolol	Bystolic
Penbutolol	Levatol
Pindolol	Visken
Propranolol	Inderal, InnoPran
Propranolol + HCTZ *	Inderide
Timolol	Blocadren
Timolol + HCTZ *	Timolide

*** Denotes a combination medication.**

Required:
Yes

Bovine Arch

Data Abstraction Instructions:

Indicate if the patient's aortic arch is bovine, in which the right brachiocephalic and left carotid arteries share a common trunk from the aortic arch.

Selections:

- Yes
- No

Required:
Yes

Bowel Ischemia

Data Abstraction Instructions:

Indicate if the patient had bowel ischemia post procedure. If yes, indicate if the patient had Medical Treatment, Surgical Treatment, or Both. Select all that apply.

When entering bowel ischemia as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the bowel ischemia treated.

Selections:

- Yes
    - Enter date of first occurrence post procedure
    - **Select treatment options for Bowel Ischemia**
    - Medical Treatment
    - Surgical Treatment
- No

Required:
Yes

CHF (CEA) (Outcomes)

Data Abstraction Instructions:

Indicate if the patient developed a new onset or acute reoccurrence/exacerbation of symptomatic heart failure or pulmonary edema after the procedure and before discharge.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Supporting Definitions:

Pulmonary edema with requirement for monitoring or treatment in the ICU.

Required:
Yes

CT Angiography Performed (Carotid Procedures)

Data Abstraction Instructions:

Indicate if a computed tomography (CT) angiogram was performed prior to the current CEA or CAS procedure.

Selections:

- Yes
- No

Required:
Yes

CTA CCA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for CT Angiography, the highest percent (%) stenosis for the right common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

CTA CCA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for CT Angiography, the highest percent (%) stenosis for the left common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

CTA ICA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for CT Angiography, the highest percent (%) stenosis for the right internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

CTA ICA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for CT Angiography, the highest percent (%) stenosis for the left internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Calcification

Data Abstraction Instructions:

Indicate the degree of calcification in the target lesion as assessed by fluoroscopic inspection.

Selections:

- None
- Mild to Moderate
- Dense and Concentric

Supporting Definitions:

None = No calcification present on fluoroscopic inspection.

Mild to Moderate = Mild to moderate calcification present on fluoroscopic inspection, but not qualifying as densely or concentrically calcified.

Dense and Concentric = Heavy, concentric calcification completely encasing the vessel present on fluoroscopic inspection.

Required:
Yes

Calcium Channel Blocker (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking a Calcium Channel Blocker at the time of the follow up.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

For Combination Therapy record as follows:
In the case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No

Supporting Definitions:

Examples of Calcium Channel Blockers are:

Generic Name	Brand Name
Amlodipine	Norvasc
Amlodipine + Atorvastatin *	Caduet
Amlodipine + Benazepril *	Lotrel
Amlodipine + Olmesartan	Azor
Amlodipine + Olmesartan + HCTZ *	Tribenzor
Amlodipine + Telmisartan *	Twynsta
Amlodipine + Valsartan *	Exforge
Clevidipine	Cleviprex
Diltiazem	Cardizem, Delacour
Diltiazem HCL	Cartia
Felodipine	Plendil
Felodipine + Enalapril *	Lexxel
Isradipine	Dynacirc
Nicardipine	Cardene
Nifedipine	Adalat, Procardia
Nisoldipine	Sular
Verapamil	Calan, Isoptin, Verelan
Verapamil + Trandolapril	Tarka

* Denotes a combination medication

Required:
Yes

Calcium Channel Blockers

Data Abstraction Instructions:

Record if a Calcium Channel Blocker was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking a Calcium Channel Blocker before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking a Calcium Channel Blocker before admission.

Medications at Discharge?

- Enter Yes if a Calcium Channel Blocker was documented as a new medication or continued at discharge.
- Enter No if a Calcium Channel Blocker was not documented as a new medication or was discontinued at discharge.

For Combination Therapy record as follows: In the case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Amlodipine	Norvasc
Amlodipine + Atorvastatin *	Caduet
Amlodipine + Benazepril *	Lotrel
Amlodipine + Olmesartan	Azor
Amlodipine + Olmesartan + HCTZ *	Tribenzor
Amlodipine + Telmisartan *	Twynsta
Amlodipine + Valsartan *	Exforge
Clevidipine	Cleviprex
Diltiazem	Cardizem, Delacour
Diltiazem HCL	Cartia
Felodipine	Plendil
Felodipine + Enalapril *	Lexxel
Isradipine	Dynacirc
Nicardipine	Cardene
Nifedipine	Adalat, Procardia
Nisoldipine	Sular
Verapamil	Calan, Isoptin, Verelan
Verapamil + Trandolapril	Tarka

*** Denotes a combination medication.**

Required:
Yes

Cardiac Arrest

Data Abstraction Instructions:

Indicate if the patient was in cardiac arrest during the procedure. Ener No if the patient came into the room in cardiac arrest, as an example ruptured AAA arresting on arrival.

Selections:

- Yes
- No

Required:
Yes

Cardiac Stress Test

Data Abstraction Instructions:

Indicate if a cardiac stress test was performed as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure cardiac stress test as used prior to the first procedure. Only enter cardiac stress tests performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Supporting Definitions:

Normal = The stress test does not report ischemia.
Abnormal = The stress test reports ischemia.

Required:
Yes

Carotid Angiography Performed

Data Abstraction Instructions:

Indicate if a diagnostic carotid angiogram was performed prior to the current procedure. Do not include the angio that was performed at the same time as the procedure.

Selections:

- Yes
- No

Required:
Yes

Carotid Angio CCA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for the Carotid Angiography, the highest percent (%) stenosis for the right common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Do not include the angio that was performed at the same time as the procedure.

Selections:

- Documented
  - Enter Value %
- Not Documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Carotid Angio CCA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for Carotid Angiography, the highest percent (%) stenosis for the left common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Do not include the angio that was performed at the same time as the procedure.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Carotid Angio ICA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for the Carotid Angiography, the highest percent (%) stenosis for the right internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Do not include the angio that was performed at the same time as the procedure.

Selections:

- Documented
  - Enter Value %
- Not Documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Carotid Angio ICA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for the Carotid Angiography, the highest percent (%) stenosis for the left internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Do not include the angio that was performed at the same time as the procedure.

Selections:

- Documented
  - Enter Value %
- Not Documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Carotid Duplex (Follow-up)

Data Abstraction Instructions:

Indicate if a carotid duplex was performed during the follow-up timeframe. If yes, indicate the measurement of stenosis at the operative site. If the duplex results give a range for the operative site, use the largest value.

This information can be obtained from the carotid duplex report.

Selections:

- Yes
  - <= 50%
  - > 50%
  - > 60%
  - > 70%
  - > 80%
  - Occluded
  - Not Occluded
- No
- Not documented

Required:
Yes

Carotid Duplex Ultrasound (PRE)

Data Abstraction Instructions:

Indicate if a carotid duplex ultrasound was performed prior to the current procedure. If yes, enter the most recent values.

Selections:

- Yes
- No

Required:
Yes

Peak Systolic Velocity - Right (PRE)

Data Abstraction Instructions:

Indicate the patient's right peak systolic velocity (PSV) for the internal carotid artery (ICA). Enter the highest PSV for the ICA and then enter the corresponding end diastolic velocity (EDV).

Selections:

- Documented
  - Enter value cm/sec
- Not documented

Required:
Yes
Suffix:
cm/sec
Minimum:
0
Maximum:
999

Peak Systolic Velocity - Left (PRE)

Data Abstraction Instructions:

Indicate the patient's left peak systolic velocity (PSV) for the internal carotid artery (ICA) in centimeters per second (cm/sec). Enter the highest PSV for the ICA and then enter the corresponding end diastolic velocity (EDV).

Selections:

- Documented
  - Enter value cm/sec
- Not documented

Required:
Yes
Suffix:
cm/sec
Minimum:
0
Maximum:
999

End Diastolic Velocity - Right (PRE)

Data Abstraction Instructions:

Indicate the patient's right end diastolic velocity (EDV) for the internal carotid artery (ICA). Enter the EDV that correlates with the highest peak systolic velocity (PSV) for the ICA.

Selections:

- Documented
  - Enter value cm/sec
- Not documented

Required:
Yes
Suffix:
cm/sec
Minimum:
0
Maximum:
700

End Diastolic Velocity - Left (PRE)

Data Abstraction Instructions:

Indicate the patient's left end diastolic velocity (EDV) for the internal carotid artery (ICA). Enter the EDV that correlates with the highest peak systolic velocity (PSV) for the ICA.

Selections:

- Documented
  - Enter value cm/sec
- Not documented

Required:
Yes
Suffix:
cm/sec
Minimum:
0
Maximum:
700

ICA/CCA Ratio - Right (PRE)

Data Abstraction Instructions:

Indicate the ratio of the peak systolic velocity (PSV) in the right internal carotid artery (ICA) to the PSV in the distal right common carotid artery (CCA).

Selections:

- Documented
  - Enter value
- Not documented

Required:
Yes

ICA/CCA Ratio - Left (PRE)

Data Abstraction Instructions:

Indicate the ratio of the peak systolic velocity (PSV) in the left internal carotid artery (ICA) to the PSV in the distal left common carotid artery (CCA).

Selections:

- Documented
  - Enter value
- Not documented

Required:
Yes

Case Number

Data Abstraction Instructions:

Enter a unique number to identify this case. This data field is optional. As an example, you could use the lab log number or another identifying number to identify each individual case. Do not enter patient's social security number or medical record number.

Selections:

- Enter case number

Required:
No
Maximum Length:
25

Cerebrovascular Disease (CVD) or Transient Ischemic Attack (TIA)

Data Abstraction Instructions:

Indicate if the patient has a history of cerebrovascular disease.

Selections:

- Yes
- No

Supporting Definitions:

- Cerebrovascular Accident (CVA) = Patient has a history of stroke, i.e., loss of neurological function with residual symptoms at least 24 hours after onset presumed to be from vascular etiology.
- Transient Ischemic Attack (TIA) = Patient has a history of loss of neurological function that was abrupt in onset but with complete return of function within 24 hours presumed to be from vascular etiology.
- Non-invasive/invasive carotid test with greater than 79% occlusion.
- Previous carotid artery surgery (CEA) or intervention for carotid artery stenosis.
- Note: This does not include neurological disease processes such as metabolic and/or anoxic ischemic encephalopathy.

Required:
Yes

Chest X-ray

Data Abstraction Instructions:

Indicate if a chest x-ray was performed as part of a functional assessment within prior 6 months. and indicate if the study was normal or abnormal. enter the documentation of the physical condition of the lungs. For example, if the radiologist documents that an ET tube is in place and there are no structural abnormalities noted in the lungs. Enter Normal.

For patients who have multiple procedures during the same hospitalization, do not use the same chest x-ray as used prior to the first procedure. Only enter the chest x-ray performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Chronic Lung Disease (COPD)

Data Abstraction Instructions:

Indicate if there is a previous history of Chronic Lung Disease.

Chronic lung disease can include patients with chronic obstructive pulmonary disease (COPD), chronic bronchitis or emphysema. It can also include a patient who is being chronically treated with inhaled or oral pharmacological therapy (e.g., beta-adrenergic agonists, anti-inflammatory agents, leukotriene receptor antagonist, or steroids). Patients with asthma or seasonal allergies are not considered to have chronic lung disease (however they may fit in this definition if they are diagnosed with asthma and are chronically treated with the above approved medications).

Selections:

- Yes
- No

Required:
Yes

Cilostazol (Pletal)

Data Abstraction Instructions:

Record if cilostazol (Pletal) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking cilostazol before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking cilostazol before admission.

Medications at Discharge?

- Enter Yes if cilostazol was documented as a new medication or continued at discharge.
- Enter No if cilostazol was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to cilostazol.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to cilostazol.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Claudication

Data Abstraction Instructions:

Indicate if the patient has leg pain caused by poor circulation, inhibiting patient's ability to walk distances.

Selections:

- Yes
- No

Supporting Definitions:

Refers to cramping pains in the legs (usually the calf muscles but may be in the thigh muscles) caused by poor circulation of the blood in the arteries to the leg muscles during exercise. True claudication is relieved with rest from exercise. If the patient has arm claudication from subclavian stenosis, do not include.

Required:
Yes

Clopidogrel (Plavix)

Data Abstraction Instructions:

Record if clopidogrel (Plavix) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking clopidogrel before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking clopidogrel before admission.

Medications at Discharge?

- Enter Yes if clopidogrel was documented as a new medication or continued at discharge.
- Enter No if clopidogrel was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to clopidogrel.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to clopidogrel.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Clopidogrel (Plavix) PRE procedure

Data Abstraction Instructions:

Indicate if clopidogrel (Plavix) was given before the procedure (from admission or previous procedure until the current procedure) and if Clopidogrel (Plavix) is contraindicated.

Contraindicated
Yes = the patient has an allergy, sensitivity, or adverse reaction to aspirin.
No = the patient does not have an allergy, sensitivity, or adverse reaction to aspirin.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Closure for Groin Access

Data Abstraction Instructions:

Indicate if the artery was accessed percutaneously and how the artery was closed **or** indicate if the groin was opened via cutdown and what material was used to close the open cutdown.

If the percutaneous access was converted to an open cutdown, enter open cutdown.

If one side is accessed percutaneously and the other side was accessed via open cutdown, enter open cutdown.

Selections:

- percutaneous access
  - manual
  - perclose
  - angioseal
  - mynx
  - starclose
  - Exoseal
  - compression device
  - other VCD
- open cutdown
  - suture
    - absorbable
    - permanent
    - Not documented
  - staples
  - skin glue
  - other

Supporting Definitions:

Percutaneous access = enter the device that was used to close the artery for percutaneous groin access (a small incision is made in the skin and the micropuncture needle is inserted into the femoral artery).

Open cutdown = enter the material used to close the skin, fascia, subcutaneous tissue, and muscle of the surgical cut-down groin access. The surgical cutdown technique involves making an incision into the skin and underlying tissues to expose the artery.

Other VCD = Enter other VCD if the vascular closure device (VCD) used to close the percutaneous access is not on the list.

Required:
Yes

Closure for Open Exposure

Data Abstraction Instructions:

Identify all that apply for incision closure. Include all layers of closure - muscle, subcutaneous, and skin.

Selections:

- Suture
  - Absorbable
  - Permanent
- Staples
- Delayed
- Other

Required:
Yes

Cold Renal Perfusion

Data Abstraction Instructions:

Indicate if the infusion of cold crystalloids was administered into the renal artery during the AAA repair to prevent post procedure renal failure.

Selections:

- Yes
- No

Required:
Yes

Compartment Syndrome (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if the patient developed compartment syndrome at any time during the procedure. Enter Yes if a fasciotomy is performed for prophylaxis.

Selections:

- Yes
- No

Supporting Definitions:

Compartment syndrome is defined as compression of nerves and blood vessels within an enclosed space which leads to muscle and nerve damage and problems with blood flow.

Required:
Yes

Compartment Syndrome (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if the patient developed compartment syndrome at any time post procedure. Enter Yes if a fasciotomy was performed for prophylaxis.

When entering compartment syndrome as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the compartment syndrome treated.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Supporting Definitions:

Compartment syndrome is defined as compression of nerves and blood vessels within an enclosed space which leads to muscle and nerve damage and problems with blood flow. Include fasciotomy for prophylaxis.

Required:
Yes

Completion Evaluation (CEA)

Data Abstraction Instructions:

Indicate if any of the following studies were utilized during the procedure at completion to evaluate patency. Select all that apply.

Selections:

- Yes
  - Doppler
  - Duplex
  - Angiogram
  - Flowprobe
- No

Required:
Yes

Completion angio

Data Abstraction Instructions:

Indicate if a completion angio was performed at the end of the procedure and if flow through the thrombectomized vessel was normal or abnormal.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Complication from Prior Procedure

Data Abstraction Instructions:

Indicate if the patient had a complication from a prior procedure.

Selections:

- Yes
- No

Supporting Definitions:

The patient had a dissection, perforation, or another complication from a prior procedure (such as a cardiac or pulmonary angiogram) that required vascular repair (Percutaneous or Surgical).

Required:
Yes

Computerized Tomographic Angiography (CTA)

Data Abstraction Instructions:

Indicate if a CTA was performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Concomitant Iliac Occlusive Disease

Data Abstraction Instructions:

Indicate of the procedure is being performed with the presence of concomitant iliac occlusive disease.

Supporting Definitions:

If the patient has documented ABIs, please enter them in the pre-imaging fields.

Required:
Yes

Concomitant endarterectomy

Data Abstraction Instructions:

Indicate if an endarterectomy was performed at the same time as the thrombectomy.

Selections:

- Yes
- No

Required:
Yes

Concurrent with CABG

Data Abstraction Instructions:

Indicate if the CAS was performed in the same OR time as a CABG.

Selections:

- Yes
- No

Required:
Yes

Congestive Heart Failure (CHF) (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if it was documented that the patient had new onset or exacerbation of CHF post procedure.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Supporting Definitions:

Heart failure is defined as physician documentation or report of any of the following clinical symptoms of heart failure described as unusual dyspnea on light exertion, recurrent dyspnea occurring in the supine position, fluid retention, or the description of rales, jugular venous distension, pulmonary edema on physical exam, or pulmonary edema on chest x-ray. A low ejection fraction alone, without clinical evidence of heart failure, does not qualify as heart failure.

Required:
Yes

Contact Date

Data Abstraction Instructions:

Enter the date of contact for follow up information. The contact date is when the patient was contacted, came to the clinic, or had a phone call to determine their status.

To enter the date click on the calendar and choose the month, year, and day of the contact date.

Selections:

Enter date.

Required:
Yes

Contained rupture

Data Abstraction Instructions:

Indicate if the aneurysm was described as a contained rupture on pre-imaging or in the physician dictation.

Selections:

- Yes
- No

Required:
Yes

Contraindicated to Chlorhexidine & Alcohol Skin Preparation

Data Abstraction Instructions:

Indicate if there is a contraindication to Chlorhexidine & Alcohol skin prep (for example: allergy, open wound, sensitivity, etc.).

Selections:

- Yes
- No

Required:
Yes

Contralateral Carotid Artery Occlusion

Data Abstraction Instructions:

Indicate if there is known 100% occlusion of the patient's contralateral carotid artery.

Selections:

- Yes
- No

Supporting Definitions:

The contralateral carotid artery is the artery on the opposite side of the artery being performed on.

Required:
Yes

Contrast Cineangiography

Data Abstraction Instructions:

Indicate if a contrast cineangiography was performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Contrast Types

Data Abstraction Instructions:

Enter the type of contrast that was used during the procedure. Select all that apply.

Selections:

- Nonionic, low-osmolar
- Nonionic, Iso-osmolar
- Ionic, hyperosmolar
- Ionic, low-osmolar
- Unknown/Investigational contrast agent
- Gadolinium
- Carbon Dioxide (CO2)
- None

Supporting Definitions:

Commonly used Contrast Agents

- Nonionic low-osmolar
  - Omnipaque, Isovue, Optiray, Ultravist, Oxilam
- Nonionic Iso-osmolar
  - Visipaque
- Ionic, hyperosmolar
  - Hypaque, Conray
- Ionic, low-osmolar
  - Hexabrix
- Unknow/Investigational contrast agent
- Gadolinium
- Carbon Dioxide (CO2)

Required:
Yes

Contrast Volume (CAS)

Data Abstraction Instructions:

Indicate the volume of iodinated contrast injected during the procedure.

Selections:

- Documented
  - Enter value ml
- Not documented

Required:
Yes
Suffix:
ml
Minimum:
0
Maximum:
500

Conversion from Endovascular Repair

Data Abstraction Instructions:

Indicate if the endovascular aneurysm repair had to be converted to an open procedure If yes, the time frame for the conversion.

Selections:

- Yes
  - Immediate
  - > 1 day to 30 days
  - > 30 days
- No

Supporting Definitions:

Include EVARs converted to open procedures even after multiple years.

Required:
Yes

Conversion to Open

Data Abstraction Instructions:

Indicate if the procedure had to be converted to an open procedure and identify reason. If the EVAR is converted to an open AAA repair, the open AAA must be entered as an additional procedure within the discharge record.

Selections:

- Yes
  - Unable to deploy appropriately
  - Endoleak
- No

Required:
Yes

Correction of Endoleak

Data Abstraction Instructions:

Indicate if the procedure is being perform to correct an endoleak from a prior procedure.

Selections:

- Yes
- No

Required:
Yes

Cranial Nerve Injury

Data Abstraction Instructions:

Indicate if the patient experienced a new cranial nerve injury, involving glossopharyngeal, vagus, accessory, hypoglossal, and/or superior laryngeal nerves. The cranial nerve injury can be an mechanical injury caused by the procedure or caused by retraction and can be transient or persistent. Select all that apply.

Selections:

- Yes
  - VII
  - IX
  - X
  - XII
  - Other
- No

Supporting Definitions:

VII (facial) = new facial droop or drooping of the corner of the mouth. Inability to keep fluids in the mouth occurs with severe injuries.

IX (glossopharyngeus) = swallowing difficulty or problems with gag reflex unless other diagnosis confirmed. Recurrent aspiration or respiratory failure can occur with severe injuries.

X (vagus) = hoarseness and laryngoscopy is normal.

XII (hypoglossal) = any tongue deviation or tongue discoordination. Upper airway obstruction occurs with bilateral hypoglossal nerve injury.

Other = any other cranial nerve injury that is not in this list.

Reference: https://www.jvascsurg.org/action/showPdf?pii=S0741-5214%2897%2970258-1

Required:
Yes

Cranial Nerve Injury (Follow-up)

Data Abstraction Instructions:

If the patient had a cranial nerve injury related to the carotid procedure, indicate the status at follow up.

Selections:

- Yes
  - Resolved
  - Persistent
- No
- Not documented

Supporting Definitions:

The cranial nerves and symptoms of nerve injuries are listed below.

- **VII** - facial droop or more severe
- **IX** - swallowing difficulty unless other diagnosis confirmed
- **X** - hoarseness unless laryngoscopy normal
- **XII** - any tongue deviation or dis-coordination

Required:
Yes

Crystalloids

Data Abstraction Instructions:

Enter the total volume of intravenous crystalloids, in milliliters (mL), and/or Plasma-lyte infused between the procedure start time and the procedure stop time. Also, document Plasma-lyte as Other IV Hydration under Meds Given During Procedure. Examples of crystalloids include Normal Saline, .45 Normal Saline, D5W, and Lactated Ringer's.

This field will display when Given is entered for Saline infusion, Lactated Ringer's infusion or Other Hydration infusion.

Selections:

- Enter value in ml
- Not documented

Required:
Yes
Suffix:
ml
Maximum:
20000
Soft Maximum:
10000

Current Living Status (CEA/CAS)

Data Abstraction Instructions:

Indicate the living status of the patient at the time of follow up. Current Living Status can be obtained through the medical record or a phone call to the patient, patient's family, or the facility the patient resides in.

When Unknown is entered, all other fields on the follow-up form will be hidden. Mark your follow-up form as Complete so that the follow-up will be counted on the reports as the patient is "Lost to Follow-up."

If you enter dead for current living status on the 30-day follow-up, do not enter a 1-year follow-up. If the patient died during the 1-year follow-up, enter dead for current living status and enter No for all other fields. If No is not an option, enter Not Documented.

Selections:

- Alive
  - Home
  - Rehabilitation
  - Other acute care hospital
  - Nursing Home/Extended Care
  - Hospice / Comfort care
  - Assisted Living
  - Homeless
  - In Hospital
  - Not Documented
- Dead
  - Current Living Status Death Date
  - Select Cause of Death
    - Neurologic
    - Cardiac
    - Pulmonary
    - Vascular
    - Infection
    - Renal
    - Unknown
- Unknown

Supporting Definitions:

Alive = The patient is alive during the follow-up.

Home = The patient lives at the place during the follow-up interval they lived before being admitted to the hospital. If the patient is in prison at the time of follow-up, enter Home.

Rehabilitation = The patient is on an inpatient rehab floor or in an external rehab facility. If the patient is in a nursing home for physical rehabilitation, enter Rehabilitation.

Other acute care hospital = The patient is in a facility where they need immediate but short-term care.

Nursing home / Extended Care = The patient is in a nursing home for long-term care or because they need nursing care beyond rehabilitation. If the patient is in a nursing home for physical rehabilitation, enter Rehabilitation.

Hospice / Comfort care = The patient is admitted to a Hospice center or is at home and is under the care of a Hospice center. Or the patient is in a facility where comfort care orders have been written.

Assisted Living = The patient is in an assisted living facility, or the patient was discharged to home with home health care. Home care and home health care are not the same. Home care provides the patient with non-clinical help. Home health care provides professional medical assistance.

Homeless = The patient has no physical home or lives in a homeless shelter.

In Hospital = The patient is in the hospital at the time of follow-up.

Not Documented = The patient is alive, however, the place where the patient is living is not documented.

Dead = The patient died any time after discharge or during the follow-up interval.

Unknown = There is no documentation during the follow-up and/or the patient cannot be reached by phone. This patient is lost to follow-up.

Required:
Yes

Current Living Status (VS)

Data Abstraction Instructions:

Indicate the living status of the patient at the time of follow up. Current Living Status can be obtained through the medical record or a phone call to the patient, patient's family, or the facility the patient resides in.

When Unknown is entered, all other fields on the follow-up form will be hidden. Mark your follow-up form as Complete so that the follow-up will be counted on the reports as the patient is "Lost to Follow-up."

If Death is entered for Discharge Status, do not enter a 30-day or 1-year follow-up.

If Dead is entered for Current Living Status on the 30-day follow-up, do not enter a 1-year follow-up.

If Dead is entered for Current Living Status, enter No for all other fields on the follow-up form. If No is not an option, enter Not Documented.

Selections:

- Alive
  - Home
  - Rehabilitation
  - Other acute care hospital
  - Nursing Home / Extended Care
  - Hospice / Comfort care
  - Assisted Living
  - Homeless
  - In Hospital
  - Not Documented
- Dead
  - Enter date of death
  - Select cause of death
    - Cardiovascular
    - Operation related
    - Unknown/other
- Unknown

Supporting Definitions:

Alive = The patient is alive during the follow-up.

Home = The patient lives at the place during the follow-up interval they lived before being admitted to the hospital. If the patient is in prison at the time of follow-up, enter Home.

Rehabilitation = The patient is on an inpatient rehab floor or in an external rehab facility. If the patient is in a nursing home for physical rehabilitation, enter Rehabilitation.

Other acute care hospital = The patient is in a facility where they need immediate but short-term care.

Nursing home / Extended Care = The patient is in a nursing home for long-term care or because they need nursing care beyond rehabilitation. If the patient is in a nursing home for physical rehabilitation, enter Rehabilitation.

Hospice / Comfort care = The patient is admitted to a Hospice center or is at home and is under the care of a Hospice center. Or the patient is in a facility where comfort care orders have been written.

Assisted Living = The patient is in an assisted living facility, or the patient was discharged to home with home health care. Home care and home health care are not the same. Home care provides the patient with non-clinical help. Home health care provides professional medical assistance.

Homeless = The patient has no physical home or lives in a homeless shelter.

In Hospital = The patient is in the hospital at the time of follow-up.

Not Documented = The patient is alive, however, the place where the patient is living is not documented.

Dead = The patient died any time after discharge or during the follow-up interval.

Unknown = There is no documentation during the follow-up and/or the patient cannot be reached by phone. This patient is lost to follow-up.

Required:
Yes

Current Smoker

Data Abstraction Instructions:

Indicate if the patient has smoked cigars, cigarettes, chew (tobacco), pipe (tobacco), marijuana, or used a smokeless device to inhale nicotine (vaping, e-cigarettes) any time during the past one month prior to arrival at your facility. Select all that apply.

The pre-procedure smoking cessation field will display when Yes is entered for Current Smoker.

Selections:

- Yes
  - Cigar
  - Cigarettes
  - Chew (tobacco)
  - Pipe (tobacco)
  - Marijuana
  - Smokeless (vaping, e-cigarettes)
- No

Required:
Yes

Current/Recent GI Bleed

Data Abstraction Instructions:

Indicate if the patient had any occurrence of melena or hematemesis in last 30 days or any history of GI bleed including peptic ulcer disease that may influence clinical management during this hospitalization.

Selections:

- Yes
- No

Required:
Yes

Dabigatran (Pradaxa)

Data Abstraction Instructions:

Record if dabigatran (Pradaxa) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking dabigatran before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking dabigatran before admission.

Medications at Discharge?

- Enter Yes if dabigatran was documented as a new medication or continued at discharge.
- Enter No if dabigatran was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to dabigatran.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to dabigatran.

Selections:

- Given
- Not Given
- Contraindicated
  - Yes
  - No

Required:
Yes

Dabigatran (Pradaxa) dose

Data Abstraction Instructions:

Enter the total daily dosage documented for dabigatran (Pradaxa) in milligrams (mg). For example, if dabigatran 150 mg BID is documented, enter 300 mg.
This field will accept decimals.

Selections:

Enter dose in text box (mg)

Required:
Yes
Minimum:
1
Maximum:
300

Date of Admission

Data Abstraction Instructions:

Enter the date that the patient arrived to the hospital for the current stay. If the patient was admitted through the emergency room, use the date they arrived at the ER as the admission date.

To enter the date click on the calendar and choose the month, year, and day of the date of admission.

Selections:

- Enter date

Required:
Yes

Date of Birth

Data Abstraction Instructions:

Enter month, day, and 4-digit year of patient's birth. BMC2 VS collects qualifying cases when the patient is ≥18 years old from the procedure date.

There are two ways to enter the procedure date & start time.

In the Procedure Date & Start Time field type the two digit day, two digit month, and four digit year. Hit the spacebar once. Then type the two digit hour, enter a colon, and type the two digit minutes. For example, the procedure date and start time is June 16, 2023, at 12:21 p.m. You will type into this field 16062021 12:21. Hit the Tab key to go to the Procedure End Date & Time field.

- OR -

Click on the calendar and choose the month, year, and day of the current procedure. Use the slider below to enter the time the procedure was initiated. Click Done so that your response can be recorded.

Selections:

- Enter date

Required:
Yes

Date of Discharge

Data Abstraction Instructions:

Enter the date the patient was discharged from the hospital for the current hospitalization. If the patient died in the hospital, the hospital discharge date is the date of death. If the patient was transferred to a rehab facility then the discharge date is the date they were transferred to the rehab facility.

To enter the date click on the calendar and choose the month, year, and day of discharge.

Selections:

- Enter date

Required:
Yes

Death (CEA/CAS)

Data Abstraction Instructions:

Indicate if the patient died during or post procedure, prior to discharge.

Selections:

- Yes
  - During procedure
  - Post procedure
- No

Required:
Yes

Cause of Death

Data Abstraction Instructions:

Indicate the cause of death.

Selections:

- Neurologic: Due to a new or progressive neurologic event.
- Cardiac: Due to a fatal arrhythmia, MI, or heart failure.
- Pulmonary: Due to pulmonary complication.
- Vascular: Due to major blood loss or other vascular complication.
- Infection: Due to infection.
- Renal Failure: Due to renal failure.
- Other: Due to other cause.

Required:
Yes

Death (Outcomes During Procedure) (VS)

Data Abstraction Instructions:

Indicate if the patient died in association with this procedure while in the lab/OR. If yes, indicate cause of death.

Selections:

- Yes
  - Cardiovascular (includes: AMI, bleed, stroke, cardiogenic shock)
  - Hemorrhage
  - Multisystem Organ Failure (includes acute lung injury and systematic inflammatory response system)
  - Other (include neurologic, renal, liver, GI, cancer)
  - Unknown cause of death
- No

Supporting Definitions:

Select no if the patient was alive throughout the procedure.

Required:
Yes

Death (Outcomes Post Procedure) (VS)

Data Abstraction Instructions:

Indicate if the patient died in association with this hospitalization. If yes, indicate cause of death.

Selections:

- Yes
  - Cardiovascular (includes: AMI, bleed, stroke, cardiogenic shock)
  - Hemorrhage
  - Multi System Organ Failure (includes acute lung injury, and systemic inflammatory response system)
  - Other (include neurologic, renal, liver, GI, cancer)
  - Unknown cause of death
- No

Supporting Definitions:

Select no if the patient was alive throughout the hospitalization.

Required:
Yes

Comfort care measures implemented

Data Abstraction Instructions:

Indicate if care was withdrawn or comfort care measures were implemented prior to death. If so, indicate the date.

Selections:

- Yes
  - Enter date
- No

Required:
Yes

Diabetes Mellitus & Diabetes Therapy

Data Abstraction Instructions:

Indicate if the patient has a history of diabetes mellitus regardless of duration of disease or need for anti-diabetic agents. This includes any occurrence between birth and arrival at this facility. If the patient has diabetes mellitus, enter the most aggressive therapy at patient admission.

Selections:

- Yes
  - None
  - Diet
  - Oral
  - Insulin
  - Other
- No

Supporting Definitions:

Diabetes mellitus is diagnosed by a physician or can be defined as a fasting blood sugar greater than 7 mmol/L or 126 mg/dL or a hemoglobin A1C value greater than or equal to 6.5%. It does not include gestational diabetes.

None = No treatment for diabetes.

Diet = Diet management only.

Oral = Oral agent treatment (includes oral agent with/without diet management).

Insulin = Insulin treatment (includes any combination with insulin).

Other = Any adjunctive treatment that is not in this list.

Patients placed on a pre-procedure diabetic pathway of insulin drip after arrival but were not on insulin therapy (treated by diet or oral method) are not coded as insulin treatment. If patient has pancreatic transplant, enter Other since the insulin from the new pancreas is not exogenous insulin.

Required:
Yes

Discharge Creatinine

Data Abstraction Instructions:

Enter the creatinine drawn after the procedure and closest to the time of discharge. If only one creatinine is drawn post procedure and before discharge, enter that value for the discharge creatinine **and** the post procedure peak creatinine value.

For extended hospitalizations, greater than 30 days, use the last creatinine prior to day 30 after the procedure. If a creatinine is not drawn post procedure and before discharge, enter Not Drawn.

Enter a value between 0.1 mg/dL and 15 mg/dL. If the patient's discharge creatinine value is outside of the limits, enter 0.1 for creatinine value <0.1 mg/dL. Enter 15 for creatinine value >15 mg/dL.

Selections:

- Drawn
  - Enter value mg/dl
- Not Drawn

Required:
Yes
Suffix:
mg/dL
Minimum:
0.1
Maximum:
15
Soft Minimum:
0.3

Discharge Hemoglobin (Hgb)

Data Abstraction Instructions:

Enter the hemoglobin drawn after the procedure and closest to the time of discharge. If a hemoglobin was not drawn post procedure and before discharge, enter Not Drawn. If only one value is available post procedure and before discharge, enter that value for both post procedure nadir hemoglobin **and** discharge hemoglobin.

Enter a value between 3 g/dL and 20 g/dL. If the patient's discharge hemoglobin value is outside of the limits, enter 3 for hemoglobin value <3 g/dL. Enter 20 for hemoglobin value >20 g/dL.

Selections:

- Drawn
  - Enter value g/dl
- Not Drawn

Required:
Yes
Suffix:
g/dl
Minimum:
3
Maximum:
20
Soft Minimum:
5
Soft Maximum:
18

Discharge Status

Data Abstraction Instructions:

Enter the location to which the patient was discharged. If you enter death as the discharge status, do not fill out a 30-Day or 1-year follow-up form.

Selections:

- Home
- Rehabilitation
- Other acute care hospital
- Nursing home / Extended care
- Hospice / Comfort care
- Left against medical advice
- Death
- Assisted Living
- Homeless
- Other

Supporting Definitions:

Home = The patient was discharged to the placed they lived before they were admitted to the hospital. If the patient was admitted from a nursing home or prison and released back to the nursing home or prison, enter Home for Discharge Status.

Rehabilitation= The patient was discharged to an inpatient rehab floor or an external rehab facility.

Other acute care hospital = The patient is discharged to a facility where they need immediate but short-term care.

Nursing home / Extended care = The patient was discharged to a nursing home for long term care or because they needed nursing care beyond rehabilitation. If the patient was discharged to a nursing home for physical rehabilitation, enter Rehabilitation for Discharge Status.

Left against medical advice = The patient was discharged or left (eloped) the hospital against medical advice.

Death = The patient died any time during the hospital encounter.

Assisted Living = The patient was discharged to an assisted living facility, or the patient was discharged to home with home health care. Home care and home health care are not the same. Home care provides the patient with non-clinical help. Home health care provides professional medical assistance.

Homeless = The patient has no physical home or lives in a homeless shelter.

Other = The patient was discharged to a facility that is not on the list.

Required:
Yes

Discharged with opioid

Data Abstraction Instructions:

Indicate if the patient was discharged with any opioid medication (either a new prescription or continuation of a pre procedure medication).

Selections:

- Yes
- No

Supporting Definitions:

Hydrocodone = Norco, Vicodin, Lortab, Lorcet
Oxycodone = OxyContin, Percocet, Roxicodone
Codeine = Tylenol #2, #3, or #4
Tramadol = Ultram, Ultram ER
Other = Fentanyl, Morphine, Hydromorphone, Dilaudid, Methadone, etc.

Required:
Yes

Type of opioid

Data Abstraction Instructions:

Indicate the type of opioid prescribed. Select all that apply.

Selections:

- Hydrocodone (Norco, Vicodin, Lortab, Lorcet)
- Oxycodone (OxyContin, Percocet, Roxicodone)
- Codeine (Tylenol 2, 3, or 4)
- Tramadol (Ultram, Ultram ER)
- Other (Fentanyl, Morphine, Hydromorphone, Dilaudid, Methadone, etc.)

Required:
Yes

Opioid dose prescribed

Data Abstraction Instructions:

Indicate the dose of the prescribed opioid. If a dose range was written for the prescribed opioid (example: Oxycodone 5-10mg) enter the lower dose.

Selections:

- Yes
  - Enter value
- Not Documented

Required:
Yes

Opioid dose prescribed (unit)

Data Abstraction Instructions:

Indicate the units for the dose of opioid prescribed.

Selections:

- mg
- ml
- mcg/hr
- mg/ml
- mcg/ml
- other

Required:
Yes

Opioid quantity prescribed

Data Abstraction Instructions:

Enter the number of pills/tablets/doses of the opioid prescribed.

Selections:

- Yes
  - Enter value
- Not Documented

Required:
Yes

Opioid refills available

Data Abstraction Instructions:

Indicate if the opioid prescription at discharge has available refills.

Selections:

- Yes
- No
- Not Documented

Required:
Yes

Opioid number of refills

Data Abstraction Instructions:

Indicate the number of opioid refills available.

Selections:

Enter value

Required:
Yes

Opioid Education

Data Abstraction Instructions:

Indicate if the patient received pain management instructions and/or education on the correct use of opioid medication for this procedure. This education may have been provided pre- or post-procedure and may include alternative pain management modalities, proper use of opioid medications, and expectations surrounding pain level.

This field will not display when Death is entered for Discharge Status.

Selections:

- Yes
- No

Supporting Definitions:

An actual note referencing the education needs to be in the patient record. The note can be written by a physician, advanced practice provider or nurse. Pre-populated discharge template instructions do not qualify. If the provider used the "Opioid Start Talking Form," this form must be scanned into the EMR with the patient's signature, and the provider does not need to write a note.

Please click the following link for more information about Michigan Opioid Laws regarding Opioid Education and Opioid Start Talking form: https://www.michigan.gov/opioids/0,9238,7-377-88141_88294---,00.html
Required:
Yes

Dissection (Not Repaired)

Data Abstraction Instructions:

Indicate if there was a dissection that was clinically significant (causing a decrease in blood flow) or residual blood flow limiting dissection at the intervention/procedure site.

Selections:

- Yes
- No

Supporting Definitions:

The appearance of contrast material outside the expected luminal dimensions of the target vessel and extending longitudinally beyond the length of the lesion. If the dissection is successfully treated with, e.g., angioplasty or stent, then it should not be considered as a complication. It would be considered a complication if the patient has a dissection identified during a return trip to the lab.

Required:
Yes

Distal Anastomosis

Data Abstraction Instructions:

Indicate the artery location farthest away (distal) from the aneurysm where the graft is sewn into the artery (anastomosis). If the graft is bifurcated, enter the artery location of the most distal limb of the graft.

Selections:

- Aorta
- Common Iliac Artery (CIA)
- External Iliac Artery (EIA)
- Common Femoral Artery (CFA)
- Graft Not Utilized

Required:
Yes

Distal Seal Zone Diameter - RT / LT

Data Abstraction Instructions:

Enter the diameter of the most distal portion of iliac treated with any covered stent such as iliac limbs, iliac extensions, contralateral limbs, ipsilateral limbs, and bridge devices. Please note: a bridging device is essentially a flared iliac limb.

When an Iliac Bridging Endoprosthesis (IBE) is attached to an iliac limb, enter the distal seal zone diameter of the iliac limb as you would typically do. Enter the diameter of the IBE in the Distal External Iliac Diameter field under Additional Graft Components.

Selections:

- Yes
  - Enter diameter _____mm
- No

Supporting Definitions:

To find the most accurate measurement use the Manufacturer's Device Catalog. These catalogs are located on the BMC2 website under Coordinator Resources>Vascular Surgery>Additional VS Abstraction Resources>EVAR Manufacturer Device Catalogs. Depending on the manufacturer, the distal seal zone diameter may be labeled as: iliac endoprosthesis diameter, distal device diameter, iliac limb diameter or iliac leg diameter.

The distal seal zone diameter may also be found in the operative note or the implant log.

Required:
Yes

Documented Patient Anxiety Levels

Data Abstraction Instructions:

Indicate if the aneurysm repair is being performed due to documented patient anxiety about aneurysm presence/growth/rupture.

Supporting Definitions:

There must be supporting documentation in the medical record to select yes.

Required:
Yes

Drain (CEA)

Data Abstraction Instructions:

Indicate if a suction wound drain was placed during closure of the surgical incision.

Selections:

- Yes
- No

Required:
Yes

Duplex Ultrasound

Data Abstraction Instructions:

Indicate if a duplex ultrasound was performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Dysrhythmia

Data Abstraction Instructions:

Indicate if there was a **new** rhythm disturbance post procedure, requiring treatment with medications or cardioversion.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Required:
Yes

Edoxaban (Savaysa)

Data Abstraction Instructions:

Record if edoxaban (Savaysa) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking edoxaban before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking edoxaban before admission.

Medications at Discharge?

- Enter Yes if edoxaban was documented as a new medication or continued at discharge.
- Enter No if edoxaban was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

Selections:

- Given
- Not Given
- Contraindicated for Edoxaban (Savaysa)
    - Yes
    - No

Required:
Yes

Edoxaban (Savaysa) dose (mg)

Data Abstraction Instructions:

Enter the total daily dosage documented for edoxaban (Savaysa) in milligrams (mg). For example, if edoxaban 60 mg daily is documented, enter 60 mg.
This field will accept decimals.

Selections:

Enter dose in text box (mg).

Required:
Yes
Minimum:
1
Maximum:
300

Ejection Fraction (EF)

Data Abstraction Instructions:

Indicate whether the patient had Ejection Fraction, the percentage of the blood emptied from the ventricle at the end of the contraction, assessed before or during the visit via invasive (i.e.. LV gram) or non-invasive testing (i.e., ECHO). If yes, enter a percentage in the range of 01 – 99. If EF was estimated as a range then take the lowest value.

Use most recent EF value within last 12 months. If the patient has an EF documented post procedure (within the hospitalization), it may be entered, provided the patient has not experienced any form of cardiac event.

Selections:

- Documented
    - Enter value%
- Not Documented

Required:
Yes
Suffix:
%
Minimum:
1
Maximum:
99

Electrocardiogram (EKG)

Data Abstraction Instructions:

Indicate if a 12-lead EKG was performed as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal. The EKG can be a separate 12-lead EKG or a 12-lead EKG that is part of a stress test report.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure EKG as used prior to the first procedure. Only enter EKGs performed prior to the specific procedure being entered.

Enter Abnormal for EKGs with a paced rhythm.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Embolic Protection Attempted

Data Abstraction Instructions:

Indicate if the operator attempted to use an embolic protection device (EPD). The flow reversal system used for TCAR has the EPD filter built into the system.

Selections:

- Yes
- No

Required:
Yes

Embolic Protection Model Name

Data Abstraction Instructions:

Indicate the brand or model of the embolic protection device.

Selections:

Select brand or model name from list.

Required:
Yes

Embolic Protection Successfully Deployed

Data Abstraction Instructions:

Indicate if the embolic protection device was successfully deployed for each device attempted. The flow reversal system used for TCAR has the EPD filter built into the system.

Selections:

- Yes
- No

Required:
Yes

Embolus (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if the patient is identified to have an embolus during the procedure. If yes, indicate if it was treated successfully.

Selections:

- Yes
    - Successful
    - Unsuccessful
- No

Supporting Definitions:

An embolus (compromised of atherosclerotic debris and / or blood clot) moves through the blood vessels until it reaches a vessel that is too small to let it pass.

Required:
Yes

Embolus (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if the patient had an embolus post procedure. When entering an embolus as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the embolus treated.

Selections:

- Yes
    - Enter date of first occurrence post procedure
    - Successful
    - Unsuccessful
- No

Supporting Definitions:

An embolus (compromised of atherosclerotic debris and / or blood clot) moves through the blood vessels until it reaches a vessel that is too small to let it pass.

Required:
Yes

End of procedure ACT

Data Abstraction Instructions:

Enter the activated clotting time (ACT) at the conclusion of the procedure, during closure or before the sheath is changed out at the end of the case. For OR cases, enter the ACT that is drawn approximately an hour from the end of the procedure.

Selections:

- Yes
  - Enter value in seconds
- Not documented

Supporting Definitions:

The ACT may be documented on the anesthesia record. If the ACT is not documented on the anesthesia record, look under labs for an ABG (Arterial blood gas) that was drawn during the procedure.

Required:
Yes
Suffix:
seconds
Minimum:
50
Maximum:
600

Endoleak at Completion

Data Abstraction Instructions:

Indicate if there was an endoleak at the end of the procedure. If an endoleak is identified and then repaired and is no longer present at the end of the procedure, enter No.

Selections:

- Yes
  - Attachment site (Type 1) (Proximal or distal attachment site leak)
  - Branch (Type II) (Retrograde filling of sac via lumbars, IMA or accessory renals)
  - Mid Graft (Type III) (filling of sac via leak at component overlap sites or fabric tear)
  - Indeterminate
- No

Required:
Yes

Estimated Blood Loss (EBL)

Data Abstraction Instructions:

Enter the estimated blood loss during the procedure. If the EBL in >5000ml, enter 5000.

Selections:

- Yes
  - Enter EBL in ml
- Not documented

Required:
Yes
Suffix:
ml
Maximum:
5000
Soft Maximum:
1000

Ethnicity

Data Abstraction Instructions:

Select if the patient is of Hispanic or Latino ethnicity.

Selections:

- Hispanic
- Non-Hispanic
- Not documented

Supporting Definitions:

Hispanic = A person of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin, regardless of race. The term "Spanish origin" can be used in addition to "Hispanic or Latino".

Non-Hispanic = A person of a non-Spanish culture.

Not documented = There is no documentation of the patient's ethnicity.

Required:
Yes

Ever Smoked

Data Abstraction Instructions:

Indicate if the patient has ever smoked.

Selections:

- Yes
- No

Supporting Definitions:

Yes = The patient has smoked at any point in their life.

No = The patient has never smoked at any point in their life. This may be documented as the patient is a Never Smoker.

Required:
Yes

Exercise counseling

Data Abstraction Instructions:

Indicate if the patient was referred to an exercise program at discharge or any time during the hospital encounter. **A referral to a cardiac rehab program does not qualify**.

This field will not display when Death is entered for Discharge Status.

Selections:

- Yes
  - Structured/Supervised
  - Home Based/Informal
- No

Supporting Definitions:

Yes = The patient was referred to a post-procedure exercise program.

Structured/Supervised = The patient was referred to an exercise program that meets the following criteria.

- Consist of sessions lasting 30-60 minutes comprising a therapeutic exercise-training program for PAD in patients with claudication.
- Conducted in a hospital outpatient setting, or a physician's office.
- Delivered by qualified auxiliary personnel necessary to ensure benefits exceed harms, and who are trained in exercise therapy for PAD.
- Under the direct supervision of a physician, physician assistant, or nurse practitioner/clinical nurse specialist who must be trained in both basic and advanced life support techniques.

Home Based/Informal = The patient was referred to an informal exercise program that meets the following criteria.

- Takes place in the personal setting of the patient rather than in a clinical setting.
- Self-directed with guidance of healthcare providers.
- Healthcare providers prescribe an exercise regimen similar to that of a supervised program.

No = The patient was not referred to a post-procedure exercise program.

Required:
Yes

Exposure

Data Abstraction Instructions:

Indicate the exposure used for AAA repair.

Selections:

- Transperitoneal
- Retroperitoneal

Supporting Definitions:

Transperitoneal = through the peritoneum - look for midline incision.
Retroperitoneal = behind the peritoneum - look for lateral positioning, flank incision.

Required:
Yes

Failed Endovascular Procedure

Data Abstraction Instructions:

Indicate if the procedure was performed for a failed endovascular intervention.

Selections:

- Yes
- No

Supporting Definitions:

A failed endovascular procedure is one performed on the ipsilateral limb (same side as current procedure) within the same vascular bed within the last 30 days.

Example: Two weeks prior, patient had a left SFA stent. Now presents for a Left Common Femoral to Popliteal bypass.

Required:
Yes

Family History of Premature Coronary Artery Disease

Data Abstraction Instructions:

Indicate if the patient has or had any direct blood relatives (parents, siblings, children) who have had any of the following diagnosed at age less than 55 years for male relatives or less than 65 years for female relatives:

- Angina,
- Acute Myocardial Infarction
- Sudden cardiac death without apparent cause
- Previous CABG surgery
- Previous Percutaneous Coronary Intervention
- Congestive Heart Failure

If the patient is adopted or the family history is unavailable enter No.

Selections:

- Yes
- No

Required:
Yes

Fellow / Second Operator

Data Abstraction Instructions:

Choose the fellow / second operator from the drop down list or create a physician identification if not already listed.

To enter a new fellow / second operator name navigate the drop down list. Click on (-1) Not Found / Other. Enter the physician's 10-digit NPI number in the Physician NPI field. Enter the physician's information in the Physician Name and Physician Specialty fields.

Go to the NIPPES NPI Registry website to find the operator's NPI number: https://npiregistry.cms.hhs.gov/search

Note: When entering the fellow / second operator name enter [Last Name] space [First Name]. Do not use commas to separate the last name and first name. Use only a space to separate the last name and first name.

Selections:

- Enter Fellow ID/Second Operator

Supporting Definitions:

This is an optional field if your site chooses to track its fellows or second operators.

Required:
No

Fibromuscular Dysplasia of Carotid Artery

Data Abstraction Instructions:

Indicate if the patient has a history of known fibromuscular dysplasia (FMD) of the ipsilateral carotid artery prior to the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

The ipsilateral carotid artery is the artery on the same side of the artery being performed on.

Required:
Yes

Filter Spasm

Data Abstraction Instructions:

Indicate if spasm or haziness noted at site of filter deployment.

Selections:

- Yes
- No

Supporting Definitions:

Filter Spasm - after the placement of an Embolic Protection Device can cause vasospasm which may lead to a decrease in cerebral blood flow.

Required:
Yes

Fluoroscopic Time

Data Abstraction Instructions:

Enter the length of time, in minutes, that fluoroscopy was used during the EVAR procedure.

Selections:

- Enter value (mins)
- Not documented

Required:
Yes

Follow Up Interval

Data Abstraction Instructions:

Choose the time frame for the Follow Up.

The follow list are examples of documentation to review for follow-up outcomes. This list is not all inclusive. Contact the Coordinating Center if you have questions about entering follow-up information. Do not use the same information for the 30-day and 1-year follow-up.

- Readmissions
- ED visits
- Telehealth visits
- The patient's post-op visit
- Office visits from other providers
- Imaging reports
- Care Everywhere or its equivalent
- Death records
- Obituaries

The 30-day follow-up information can be obtained 2 weeks to 5 months after the date of discharge. If the patient is hospitalized for more than 30 days, get the follow-up information from the first available appointment post-discharge.

The 1-year follow-up information can be obtained 6 months to 14 months after the date of discharge.

Selections:

- 30 day
- 1 year

Required:
Yes

Fondaparinux (Arixtra)

Data Abstraction Instructions:

Record if fondaparinux (Arixtra) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking fondaparinux before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking fondaparinux before admission.

Medications at Discharge?

- Enter Yes if fondaparinux was documented as a new medication or continued at discharge.
- Enter No if fondaparinux was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

Selections:

- Given
- Not Given
- Contraindicated for Fondaparinux (Arixtra)
  - Yes
  - No

Required:
Yes

Foot Infection (WIfI)

Data Abstraction Instructions:

Indicate if the patient has a foot infection before the open bypass procedure and to what degree.

Grade	Clinical Description	IDSA	IWGDF Class
0	wound without purulence or manifestations of infection	uninfected	1
1	>2 manifestations of infection (erythema or purulence, pain tenderness, warmth or induration) any cellulitis or erythema extends < 2cm around ulcer; infection is limited to skin or subcutaneous tissues; no local complications or systemic illness	mild	2
2	Infection in patient who is systemically and metabolically stable but has ≥1 of the following: cellulitis extending 2cm, lymphangitis; spread beneath fascia; deep tissue abscess; gangrene; muscle, tendon, joint or bone involvement	moderate	3
3	Infection in patient with systemic or metabolic toxicity	severe	4

Selections:

- Yes
  - Grade 1: >2 manifestations of infection (erythema, purulence, pain, warmth, etc.)
  - Grade 2: Infection in patient who is systemically stable but has one or more of the following; cellulitis extending 2cm, spread beneath fascia, deep tissue abscess, gangrene, muscle/tendon/bone involvement
  - Grade 3: Infection in patient with systemic or metabolic toxicity
  - Not Documented
- No

Required:
Yes

Former Smoker

Data Abstraction Instructions:

Select if patient has stopped smoking cigars, cigarettes, chew (tobacco), pipe (tobacco), or marijuana, or stopped using a smokeless device to inhale nicotine (vaping, e-cigarettes) for one month or more before this admission. Select all that apply.

Selections:

- Yes
  - Cigar
  - Cigarettes
  - Chew (tobacco)
  - Pipe (tobacco)
  - Marijuana
  - Smokeless (vaping, e-cigarettes)
- No

Required:
Yes

Gender

Data Abstraction Instructions:

Enter the patient's gender at birth.

Selections:

- Female
- Male

Required:
Yes

Given Home Medications Prior To Admission?

Data Abstraction Instructions:

Indicate if the patient was taking the applicable medications before admission. Enter home medications prior to admission for patients who expire before discharge.

Selections:

- Yes
- No

Supporting Definitions:

Yes = The patient was taking an applicable medication before admission.
No = The patient was not taking an applicable medication before admission.

Required:
Yes

Given Medications at Discharge?

Data Abstraction Instructions:

Indicate if an applicable medication was documented as a new medication or continued at discharge. This field will not display when Death is entered for Discharge Status.

Selections:

- Yes
- No

Supporting Definitions:

Yes = An applicable medication was documented as a new medication or continued at discharge.
No = An applicable medication was not documented as a new medication or was discontinued at discharge.

Required:
Yes

Glucose (peak)

Data Abstraction Instructions:

Enter the highest blood glucose value documented between the procedure start time and the procedure stop time. If only one glucose value is documented during the procedure, enter that value.

Selections:

- Yes
  - Enter value in mg/dL
- Not documented

Supporting Definitions:

The glucose may be documented on the anesthesia record. If the glucose is not documented on the anesthesia record, look for under labs for an ABG (Arterial blood gas) that was drawn during the procedure. The glucose value may be in the ABG results.

Required:
Yes
Suffix:
mg/dL

Glycopyrrolate (Monograph) During Procedure

Data Abstraction Instructions:

Record if glycopyrrolate (Monograph) was given during a CAS procedure (glycopyrrolate was given during the time the patient enters the room until the time the patient leaves the room).

Selections:

- Given
- Not Given

Required:
Yes

Graft Body Diameter

Data Abstraction Instructions:

Enter the diameter of the main body graft that is closest (proximal) to the aneurysm. If the graft is bifurcated, the largest number will be the proximal graft body diameter.

Selections:

- Documented
  - Enter value in mm
- Not documented
- Graft Not Utilized

Required:
Yes
Suffix:
mm
Minimum:
8
Maximum:
40

Graft Configuration

Data Abstraction Instructions:

Indicate graft configuration.

Selections:

- Aorto-bi-iliac
- Aorto-uni-iliac RT
- Aorto-uni-iliac LT
- Aorto-aortic
- Fenestrated
- Graft Not Utilized

Supporting Definitions:

Aorto-bi-iliac= A main body endograft that has a limb (or leg) implanted into each iliac artery.

Aorto-uni-iliac = A main body endograft that has a limb (or leg) implanted into one iliac artery. An occluder is implanted in the opposite artery. A cross-over fem-fem open bypass may be performed below the occludes to restore bloodflow to that artery.

Aorto-aortic = A tube graft where the proximal and distal ends of the graft are implanted into the aorta.

Fenestrated = A custom made endograft that has holes (fenestrations) in it to preserve blood flow to the renal or visceral (i.e., inferior mesenteric artery, superior mesenteric artery, etc.) arteries. An EVAR procedure where a fenestrated graft is implanted may be called a FEVAR procedure.

Required:
Yes

Graft Insertion

Data Abstraction Instructions:

Select insertion point on vessel. This is the distal attachment to the artery. Arterial flow exits the graft (outflow). If two insertion sites are used, enter the second insertion site in the Graft Insertion #2 field.

Selections:

- Select artery name from list

Required:
Yes

Graft Insertion #2

Data Abstraction Instructions:

Select the second insertion point (outflow) from the dropdown list if applicable. For example, if an aorto-bifemoral bypass was performed. Enter the right CFA for the insertion point and the left CFA for the 2nd insertion point.

Selections:

- Select artery name from list

Required:
No

Graft Involved

Data Abstraction Instructions:

Indicate if the vascular graft or patch showed evidence of involvement in the SSI, either by visualization of the graft or patch during incision and drainage of the incision or during operative revision or chart documentation of graft infection associated with SSI. This field will display when Superficial, Deep, or Organ Space is entered for Open Bypass SSI.

Selections:

- Yes
- No

Required:
Yes

Graft Origin

Data Abstraction Instructions:

Enter the origin point on vessel using the vessel artery map. This is the location where the graft is proximally attached to the artery and arterial flow enters the graft (inflow).

Selections:

- Select artery name from list

Required:
Yes

Graft Type (EVAR)

Data Abstraction Instructions:

Indicate the type of graft used to repair the AAA.

Selections:

- Endologix AFX
- Endologix Alto
- Endurant II
- Gore Excluder
- Gore Excluder Conformable
- Terumo Treo
- Zenith
- Other
- Graft Not Utilized

Required:
Yes

Graft Type (OAAA)

Data Abstraction Instructions:

Indicate type of graft used to repair the AAA. Choose all that apply.

Selections:

- Dacron
- PTFE
- Allograft
- Other
- Graft Not Utilized

Required:
Yes

HDL Cholesterol

Data Abstraction Instructions:

Enter the HDL Cholesterol value collected within 6 months prior to procedure, provided the patient is on a stable statin dose, or anytime during the hospitalization.

If multiple values are available, select the values closest to the procedure start time. Enter a value between 20 mg/dL and 60 mg/dL. If the patient's HDL value is outside of the limits enter 20 for HDL <20 mg/dL. Enter 60 for HDL >60 mg/dL.

Selections:

- Drawn
  - Enter value mg/dl
- Not Drawn

Required:
Yes
Suffix:
mg/dL
Minimum:
20
Maximum:
60

Hb A1C

Data Abstraction Instructions:

Enter the Hb A1C closest to the procedure start time. This value can be taken within four months prior to procedure or during the hospitalization.

Selections:

- Yes
  - Enter value
- Not drawn

Required:
Yes
Minimum:
0
Maximum:
20

Height

Data Abstraction Instructions:

Enter actual or estimated height, in centimeters, that is closest to the procedure start time. If the patient has had bilateral amputations, enter the patient's height prior to amputation.

Height in cm = Height in inches X 2.54

Selections:

- Enter value in cm

Required:
Yes
Suffix:
cm
Minimum:
100
Maximum:
250

History of Coronary Artery Disease (CAD)

Data Abstraction Instructions:

Indicate if the patient has a history of Coronary Artery Disease. These include a history of:

- Angina: stable: (history of angina controlled by medications)
- Angina: unstable: (history of admissions for unstable angina symptoms)
- Percutaneous coronary intervention (PCI) (balloon or stent placement)
- History of MI
- History of CABG

Selections:

- Yes
- No

Required:
Yes

History of Seizure or Known Seizure Disorder

Data Abstraction Instructions:

Indicate if the patient has a history of a seizure disorder as indicated in the medical record or characterized by at least two unprovoked seizures that occurred at different times (excluding febrile seizures) prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Home O2 Therapy

Data Abstraction Instructions:

Indicate if the patient received home oxygen therapy for treatment of chronic lung disease prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Hyperlipidemia

Data Abstraction Instructions:

Indicate if the patient has a history of hyperlipidemia diagnosed and/or treated by a physician. If the patient is diagnosed within 24 hours of the admission select "yes".

Selections:

- Yes
- No

Supporting Definitions:

For patients with known coronary artery disease, treatment is initiated if LDL is greater than 100mg/dl, this would qualify as hypercholesterolemia.

Criteria also includes documentation of the following:

- Total cholesterol greater than 200mg/dL (5.18mmol/L) or
- Low density lipoprotein (LDL) greater than or equal to 100 mg/dL (2.58mmol/L) or
- High Density Lipoprotein (HDL) less than 40 mg/dL (1.04mmol/L)
- Currently on lipid lowering pharmacologic therapy

Required:
Yes

Hypertension

Data Abstraction Instructions:

Indicate if the patient has a history of hypertension diagnosed and/or treated by a physician. If the patient is diagnosed within 24 hours of the admission select "yes".

Selections:

- Yes
- No

Supporting Definitions:

Patient qualifies with:

- History of hypertension diagnosed and treated with medication, diet, and/or exercise.
- Documentation of blood pressure greater than 140 mm Hg systolic or 90 mm Hg diastolic for patients without documented diabetes or chronic kidney disease.
- Documentation of blood pressure greater than 130 mm Hg systolic or 80 mm Hg diastolic on at least two occasions for patients with diabetes, chronic kidney disease, CHF, or PAD.
- Currently on antihypertensive pharmacologic therapy for the treatment of hypertension.

Required:
Yes

Hypogastric Coiled/Plugged

Data Abstraction Instructions:

Indicate if the patient had coiling of the hypogastric arteries, either pre procedure or during the procedure.

Selections:

- Yes
  - Coiled/Plugged Pre-op
  - Coiled/Plugged Intra-op
    - Unilateral
    - Bilateral
- No

Required:
Yes

Hypogastric Intentionally Covered

Data Abstraction Instructions:

Indicate if the Hypogastric was intentionally covered with extension of graft to treat distal aneurysm extent. This would be planned prior to procedure.

Selections:

- Yes
  - Unilateral
  - Bilateral
- No
- Graft Not Utilized

Required:
Yes

Hypogastric Unintentionally Covered

Data Abstraction Instructions:

Indicate if the Hypogastric was inadvertently covered with extension of graft not necessary to treat distal aneurysm extent.

Selections:

- Yes
  - Unilateral
  - Bilateral
- No
- Graft Not Utilized

Required:
Yes

Hypogastric ligated/occluded

Data Abstraction Instructions:

Indicate if the hypogastric artery was ligated or occluded during the procedure.

Selections:

- Yes
  - Single
  - Both
- No

Required:
Yes

IV Heparin/Unfractionated Heparin

Data Abstraction Instructions:

Record if IV heparin/unfractionated heparin was Given before, during and/or after the procedure or Not Given. Record Heparin that was administered IV, IC or IA (bolus during the procedure) to the patient. Do not include low dose (unfractionated) heparin given SQ for DVT prophylaxis

Medications During Procedure

- Enter Given if IV heparin/unfractionated heparin was given before, during or after the procedure
  - Pre = IV heparin/unfractionated heparin that was given from admission or previous procedure until the current procedure.
  - During = IV heparin/unfractionated heparin that was given from the time the patient enters the room until the time the patient leaves the room. Enter the Total Heparin Dosage.
  - Post = IV heparin/unfractionated heparin that was given after the patient has left the room until discharge or next procedure.
- Enter Not Given if the medication was not given.

Selections:

- Given
  - Pre
  - During
    - Enter total heparin dosage in units.
    - Not documented.
  - Post

- Not Given

Required:
Yes

Total Heparin Dosage

Data Abstraction Instructions:

Enter the total dose(s)/bolus(es) of unfractionated heparin units that were given during the procedure. If heparin was given and you cannot find documentation of the dose given enter Not documented.

Selections:

- Enter value in units
- Not documented

Supporting Definitions:

Do not include heparin drip doses in this value. Include only the bolus doses.

Required:
Yes
Suffix:
units
Maximum:
40000

IV Nitroglycerin DURING procedure

Data Abstraction Instructions:

Record if Nitrates or IV Nitroglycerin are given during the procedure (Nitrates or IV Nitroglycerin that were given from the time the patient enters the room until the time the patient leaves the room).

PRN nitroglycerin does not qualify.

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Isosorbide Dinitrate	Dilatrate SR, Isordil
Isosorbide Dinitrate + Hydralazine *	Bidil
Isosorbide Mononitrate	Imdur, Ismo, Monoket
Nitroglycerin	Nitro-bid, Nitro-Dur
Nitroglycerin Ointment	Nitrol, Nitro-BID
Nitroglycerin: IV infusion	Tridil
Nitroglycerin: Nitrolingual Spray	NitroMist, Nitrolingual
Nitroglycerin: Sublingual	Nitrostat, NitroQuick
Nitroglycerin: Transdermal	Minitran, NitroDur
Nitroglycerin: Transmucosal	Nitroguard

*** Denotes a combination medication.**

Required:
Yes

Iliac Aneurysm

Data Abstraction Instructions:

Indicate if the patient had an iliac aneurysm that is >2 cm (>20 mm) as the maximum measurement. The aneurysm can be located in the common iliac artery (CIA), external iliac artery (EIA), or internal iliac artery (hypogastric).

Selections:

- Yes
  - Unilateral
  - Bilateral
    - Enter value in mm
- No

Required:
Yes
Suffix:
mm
Minimum:
10
Maximum:
100

Impaired Ability to Work

Data Abstraction Instructions:

Indicate if the procedure is performed due to an inability to work.

Selections:

- Yes
- No

Required:
Yes

Increased Stent Graft Velocity

Data Abstraction Instructions:

Indicate if the procedure performed is due to increased velocities in a pre-existing stent graft and whether the patient is experiencing symptoms.

Selections:

- Yes
  - Symptomatic
  - Asymptomatic
- No

Supporting Definitions:

This may be demonstrated via abnormal duplex scans, abnormal non-invasive imaging, or increased velocities identified during surveillance visits.

Required:
Yes

Increased Stent Velocity

Data Abstraction Instructions:

Indicate if the procedure performed is due to increased velocities in a pre-existing stent and whether the patient is experiencing symptoms.

Selections:

- Yes
  - Symptomatic
  - Asymptomatic
- No

Supporting Definitions:

This may be demonstrated via abnormal duplex scans, abnormal non-invasive imaging, or increased velocities identified during surveillance visits.

Required:
Yes

Infection

Data Abstraction Instructions:

Indicate if the procedure was performed due to an infection from a prior procedure.

Selections:

- Yes
- No

Supporting Definitions:

The Indication of Infection captures vascular surgeries performed due to an infected graft, wound, or other sources of infection from a prior procedure; not those indicated for ulcers or wound healing.

Required:
Yes

Infection/Sepsis (Outcomes Post Procedure)

Data Abstraction Instructions:

Positive cultures requiring treatment with antibiotics. Do not include patients that are placed on antibiotics during a hospitalization with no positive cultures.

If yes, select all that apply.

Selections:

- Yes
  - Enter date of first occurrence post procedure (date of first positive culture)
  - Access site
  - Central Line/IV
  - Blood
  - Graft infection
  - Pulmonary
  - UTI
  - Wound site
  - Unknown
- No

Supporting Definitions:

Pneumonia may be indicated when evidenced on CXR (lobar infiltrate on CXR and/or pure growth of recognized pathogen or 4+ growth of recognized pathogen in presence of mixed growth) and treatment with antibiotics, even without positive culture.

Required:
Yes

Inferior Mesenteric Artery at Completion

Data Abstraction Instructions:

Indicate the status of the IMA at the end of the procedure.

Selections:

- Occluded
- Ligated
- Re-implanted
- Patent
- Graft Not Utilized
- Not documented

Supporting Definitions:

Occluded = The IMA may be occluded by thrombus before the start of the procedure (dictated no flow/not visualized on pre-procedure imaging).

Ligated = The IMA may be sutured/ligated during the procedure due to back-bleeding from the artery.

Re-implanted = If the IMA appears to be a major source of flow to the bowels, it may be re-implanted to prevent bowel ischemia.

Patent = The IMA is open to blood flow. If the IMA was re-implanted and open to blood flow, enter re-implanted.

Graft not utilized = The graft was not implanted. Graft not utilized is not a substitution for “not documented.”

Not documented = The status of the IMA at the end of the procedure is not documented.

Required:
Yes

Infrarenal Neck Diameter

Data Abstraction Instructions:

Enter the distal neck diameter in millimeters as determined by CTA or IVUS.

Selections:

- Yes
  - Enter value in mm
- No

Supporting Definitions:

This measurement is the diameter of the aortic neck that is above the aneurysm. This measurement will come from a CTA scan, may be documented in radiology or operative note. This can also be taken from the EVAR planning sheet.

Required:
Yes
Suffix:
mm
Minimum:
5
Maximum:
75

Infrarenal Neck Length

Data Abstraction Instructions:

Enter length of infrarenal neck in millimeters as determined by CTA or IVUS (intravascular ultrasound).

Selections:

- Yes
  - Enter value in mm
- No

Supporting Definitions:

The neck length is the distance of the aorta that is below the level of the lowermost renal artery to the top of the aneurysm.
This measurement will come from a CTA scan, may be documented in radiology or operative note. This can also be taken from the EVAR planning sheet.

Required:
Yes
Suffix:
mm
Minimum:
0
Maximum:
50

Initial Wound Vac Placement in OR

Data Abstraction Instructions:

Indicate if the initial placement of the wound vac was performed during the procedure (EVAR, Open Bypass or Open Thrombectomy), before the patient left the OR. If Yes, indicate what type of wound vac was used.

For EVAR procedures, this field will display when Open Cutdown is selected under Closure for Groin Access.

Selections:

- Yes
  - Incisional Wound Vac
  - Traditional Wound Vac
- No

Supporting Definitions:

A wound vacuum (wound vac) is a negative pressure system that is placed on the surgical wound to promote wound healing and reduce infection. The wound vac consists of a dressing, tubing, and a suction device.

Incisional Wound Vac = The wound vac was placed on skin that was closed with sutures or staples.
Traditional Wound Vac = The wound vac was placed on skin that was open. A sponge or other material may be placed on the wound and the dressing is placed on top.

Required:
Yes

Insured

Data Abstraction Instructions:

Enter the patient's health insurance coverage. If the terms “Self-Pay,” "Self-Pay/No Insurance", or "Patient Self-Pay" are documented, enter No. If the patient is listed as "Medicaid Pending", enter No.

Selections:

- Yes
- No

Supporting Definitions:

Yes = The patient has health insurance.

No = The patient does not have health insurance.

Required:
Yes

Commercial Insurance

Data Abstraction Instructions:

Indicate if the patient has commercial insurance. If the patient has Medicare and Medicaid, enter Medicare under Commercial Insurance as Other Payer. Enter Medicaid under Government Provided Insurance.

Please refer to the Insurance Classification Guide on the BMC2 website for a list of Commercial Insurance carriers. This list is not all inclusive.

Selections:

- Yes
  - BCBSM
  - Other Payer
- No

Supporting Definitions:

Yes = the patient has commercial insurance.

No = the patient does not have commercial insurance.

Commercial insurance is health insurance provided and administered by public and private companies rather than by the government.

- Employment-based health insurance is coverage offered through one's own employment or a relative's. It may be offered by an employer or by a union.
- Own Employment-based health insurance is coverage offered through one's own employment and only the policyholder is covered by the plan.
- Direct-purchase health insurance is coverage through a plan purchased by an individual from a private company.

Required:
Yes

Health Maintenance Organization (HMO)

Data Abstraction Instructions:

Indicate if the patient has a HMO. Please refer to the Insurance Classification Guide on the BMC2 website for a list of HMO carriers. This list is not all inclusive.

Selections:

- Yes
  - Blue Care Network (BCN) Michigan
  - Other HMO
- No

Supporting Definitions:

A **health maintenance organization** (HMO) is an organization that provides or arranges managed care for health insurance, self-funded health care benefit plans, individuals and other entities in the United States and acts as a liaison with health care providers (hospitals, doctors, etc.) on a prepaid basis.

Yes = the patient has a HMO.

No = the patient does not have a HMO.

Required:
Yes

Government Provided Insurance

Data Abstraction Instructions:

Indicate if the patient has government health insurance coverage. Government health insurance includes plans funded by governments at the federal, state, or local level.

If the patient has Medicare and Medicaid, enter Medicare under Commercial Insurance as Other Payer. Enter Medicaid under Government Provided Insurance.

Please refer to the Insurance Classification Guide on the BMC2 website for a list of Government Provided Insurance carriers. This list is not all inclusive.

Selections:

- Yes
  - Medicare Original
    - Medicare Supplemental
      - Yes
        - BCBSM
        - Other Payer Medicare supplemental coverage
      - No
  - Medicare Advantage (Part C)
    - BCBSM
    - BCN
    - Other
  - Blue Cross Complete of Michigan
  - Medicaid
  - County
  - Other
- No

Supporting Definitions:

Yes = the patient has government provided insurance.

No = the patient does not have government provided insurance.

Medicare Original = The Federal program which helps pay health care costs for people 65 and older and for certain people under 65 with long-term disabilities.

Medicare Supplemental Coverage = Private supplemental health insurance plans sold to Medicare beneficiaries in the United States that provide coverage for medical expenses.

Medicare Advantage (Part C) = A Medicare Advantage Plan is (like an HMO or PPO) is another Medicare health plan choice you may have as part of Medicare. Medicare Advantage Plans, sometimes called "Part C" or "MA Plans" are offered by private companies approved by Medicare.

Blue Cross Complete of Michigan = A Medicaid health insurance plan contracted with the Michigan Department of Community Health. The plans service areas include Livingston, Washtenaw, and Wayne counties.

Medicaid = A program administered at the state level, which provides medical assistance to low-income individuals and families.

County = County Health Plans provide access to organized systems of health care for low-income persons who are not eligible for any other health coverage.

Other = Other Government Insurance that is not on the list.

Required:
Yes

Other (Insurance)

Data Abstraction Instructions:

Indicate if the patient had a type of insurance that is not commercial insurance, a HMO or a government provided insurance. Please refer to the Insurance Classification Guide on the BMC2 website for Other insurance carriers. This list is not all inclusive.

Selections:

- Yes
- No

Required:
Yes

Intra Operative Graft Patency

Data Abstraction Instructions:

Indicate the method used to assess graft patency at the end of the procedure and if it was normal or abnormal. This should indicate flow through the graft itself and is not related to outflow vessels.

Selections:

- Yes
  - Doppler
  - Duplex
  - Angiogram
    - Normal
    - Abnormal
- No

Required:
Yes

Intra Operative Graft Revision

Data Abstraction Instructions:

Indicate if intraoperative graft revision was performed.

Selections:

- Yes
- No

Supporting Definitions:

A graft revision is a part of the procedure that is unplanned after the initial graft is sewn into place and tested for patency. For example: revision for thrombus after poor doppler signals, kinking, or anastomosis revision.

Required:
Yes

Intra-Operative Revision Needed

Data Abstraction Instructions:

Indicate if a graft revision was performed during the procedure.

Selections:

- Yes
- No

Supporting Definitions:

A revision may include an unplanned limb extension, the addition of a proximal cuff, or a main body extension.

Required:
Yes

Intraoperative Vein Mapping

Data Abstraction Instructions:

Indicate if an ultrasound was used intra-operatively to determine the vein diameter during the open bypass procedure.

Selections:

- Yes
- No

Required:
Yes

Ischemia (WIfI)

Data Abstraction Instructions:

Indicate the degree of ischemia present before the open bypass procedure.

Grade	*ABI*	*Ankle systolic pressure*	*TP, $TcPO_2$*
0	≥0.80	>100 mm Hg	≥60 mm Hg
1	0.6-0.79	70-100 mm Hg	40-59 mm Hg
2	0.4-0.59	50-70 mm Hg	30-39 mm Hg
3	≤0.39	<50 mm Hg	<30 mm Hg

ABI, Ankle-brachial index; *PVR,* pulse volume recording; *SPP,* skin perfusion pressure; *TP,* toe pressure; *$TcPO_2$,* transcutaneous oximetry.
Patients with diabetes should have TP measurements. If arterial calcification precludes reliable ABI or TP measurements, ischemia should be documented by $TcPO_2$, SPP, or PVR. If TP and ABI measurements result in different grades, TP will be the primary determinant of ischemia grade.
Flat or minimally pulsatile forefoot PVR = grade 3.

Selections:

- Yes
  - Grade 1
  - Grade 2
  - Grade 3
  - Not Documented
- No

Supporting Definitions:

Grade 1 = ABI 0.60-0.79, Toe pressure 40-59 mm Hg
Grade 2 = ABI 0.40-0.59, Toe pressure 30-39 mm Hg
Grade 3 = ABI < 0.39, Toe pressure <30 mm Hg

Required:
Yes

Kerma Area Product (Dose Area Product)

Data Abstraction Instructions:

Enter the Kerma-Area Product (KAP) for the EVAR procedure.

Selections:

- Documented
  - Enter value in textbox
    - Select option
    - $Gy.cm^2$
    - $dGy.cm^2$
    - $cGy.cm^2$
    - $mGy.cm^2$
    - $\mu Gy.M^2$
- Not documented

Supporting Definitions:

KAP may also be called the dose area product (DAP). The KAP or DAP is the product of the intensity of the radiation beam (air kerma) multiplied by the area of the beam. It is the appropriate way to measure the total amount of radiation delivered to the patient.

Reference: Dixon, R.G., FSIR, & Ogden, K.M. (2016, August). A field guide to radiation safety terminology: An overview of key radiation dosimetric quantities and terms. *Endovascular Today,15*(8), 48-52. https://evtoday.com/articles/2016-aug/a-field-guide-to-radiation-safety-terminology

Required:
Yes

LDL Cholesterol

Data Abstraction Instructions:

Enter the LDL Cholesterol value collected within 6 months prior to procedure, provided the patient is on a stable statin dose, or anytime during the hospitalization.

If multiple values are available, select the values closest to the procedure start time. Enter a value between 50 mg/dL and 200 mg/dL. If the patient's LDL value is outside of the limits, enter 50 for LDL <50 mg/dL. Enter 200 for LDL >200 mg/dL.

Selections:

- Drawn
  - Enter value mg/dl
- Not Drawn
- Not Calculated

Supporting Definitions:

Required:
Yes
Suffix:
mg/dL
Minimum:
50
Maximum:
200

Lactated Ringer's Infusion

Data Abstraction Instructions:

Record if a Lactated Ringer's (LR) infusion was Given or Not Given during a procedure. If an LR infusion was administered, enter the timeframe (pre, during, post) and length of the infusion.

LR rate for inclusion is >= 50cc/hr.

Medications During Procedure

- Enter Given if LR was given before, during or after the procedure
  - Pre = LR was given from admission or previous procedure until the current procedure.
  - During = LR was given from the time the patient enters the room until the time the patient leaves the room
  - Post = LR was given after the patient has left the room until discharge or next procedure.
- Enter Not Given if LR was not given.

Selections:

- Given
  - Infusion < 1 hour
    - Pre
    - During
    - Post
  - Infusion 1 - 3 hours
    - Pre
    - During
    - Post
  - Infusion ≥3 - 6 hours
    - Pre
    - During
    - Post
  - Infusion > 6 hours
    - Pre
    - During
    - Post
- Not Given

Required:
Yes

Left Main Coronary Artery Stenosis ≥ 50%

Data Abstraction Instructions:

Indicate if the patient currently has a Left Main Coronary Artery stenosis greater than or equal to 50% prior to the current procedure.

Enter No if the patient had an intervention to repair the blocked Left Main artery or if the patient had a CABG.

Selections:

- Yes
- No

Required:
Yes

Lesion Difficult to Access Surgically

Data Abstraction Instructions:

Indicate if the lesion is difficult to access surgically for CAS. If yes, indicate if the patient has high cervical or low intrathoracic lesion.

Selections:

- Yes
  - High Cervical
  - Low Intrathoracic
- No

Supporting Definitions:

High cervical = lesions in the ICA at or above the level of C2 that are difficult to access.

Low intrathoracic = lesions that are within the proximal 1/2 or 1/3 of the common carotid artery, at or below the clavicle rendering endarterectomy either difficult or impossible.

Required:
Yes

Lesion Length

Data Abstraction Instructions:

Indicate the length of the target lesion in millimeters (mm) as assessed by baseline angiography or dictated by the physician. If no value available, use the stent length.

Selections:

- Documented
  - Enter value in mm
- Not documented

Required:
Yes
Suffix:
mm
Soft Minimum:
5
Soft Maximum:
100

Lesion Treatment Incomplete or Aborted (CAS)

Data Abstraction Instructions:

Indicate if the lesion treatment was incomplete or aborted. If Yes, enter the reason(s) the lesion treatment was incomplete or aborted.

Note: When you enter No, the stent fields will display. When you enter Yes, the stent fields will not display.

Selections:

- Yes
- No

Required:
Yes

Reasons Treatment Aborted (CAS)

Data Abstraction Instructions:

Indicate the reasons the lesion treatment was incomplete or aborted. Select all that apply.

Selections:

- Failure to gain vascular access
- Failure to confirm significant stenosis
- Unable to place guiding catheter/sheath
- Unable to cross guide wire
- Unable to cross balloon
- Unable to deploy EPD
- Unable to deliver stent
- Unable to deploy stent
- Difficult to access due to tortuosity
- Hypotension
- Hypertension
- Arrhythmia
- Cardiac ischemia
- Other

Required:
Yes

Lesions Treated

Data Abstraction Instructions:

Indicate if a single lesion or distinct lesions were treated during the CAS procedure.

Selections:

- Single lesion
- Distinct lesions

Supporting Definitions:

Single lesion = A single lesion is treated with a stent or overlapping stents, or multiple lesions are treated with overlapping stents.

Distinct lesions = Distinct lesions are separated by a normal segment of the artery and cannot be treated by the same stent or overlapping stents. Distinct lesions can also be in two separate arteries, such as the internal and common carotid.

Required:
Yes

2nd Lesion (Not Treated)

Data Abstraction Instructions:

Indicate if there was a second Lesion on the ipsilateral (same) side of treatment during this CAS that was not treated with either ballooning or stenting. If Yes, enter the 2nd Lesion Pre Procedure % Stenosis.

Selections:

- Yes
- No

Supporting Definitions:

Yes = A second lesion was present in the carotid artery that was not treated during this CAS procedure.

No = A second lesion was present in the carotid artery that was treated during this CAS procedure.

Required:
Yes

Second Lesion Pre procedure % Stenosis (CAS)

Data Abstraction Instructions:

Enter the percent stenosis of the second lesion.

Selections:

Enter value %

Required:
Yes

Lower Extremity Ischemia/Emboli

Data Abstraction Instructions:

Indicate if the procedure is being performed due to the presence of lower extremity ischemia/emboli due to the aneurysm.

Selections:

- Yes
- No

Required:
Yes

MI (Follow-up)

Data Abstraction Instructions:

Indicate if the patient was readmitted to the hospital for a myocardial infarction post procedure. This information should be gathered from a patient's medical record, not from interviewing the patient.

Enter MI if the patient is diagnosed with Type 2 Myocardial Infarction, Type 1 NSTEMI, or STEMI. If no diagnosis is documented, enter MI if the patient has an elevated cardiac troponin value(s) greater than the 99^{th} percentile URL (upper reference limit) with a rise and/or fall in troponin and at least one of the following:

- Chest pain
- Nausea
- Shortness of breath
- New ischemic EKG changes (S-T elevations, S-T depression, pathological Q waves)
- An Echo/MRI/Stress test that is positive for ischemia
- Thrombus seen on angiogram or autopsy

Reference: Thygesen, K., Alpert, J. S., Jaffe, A. S., Chaitman, B. R., Bax, J. J., Morrow, D. A., White, H. D., & The Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction. (2018, November 13). *Fourth Universal Definition of Myocardial Infarction (2018)*. Fourth universal definition of myocardial infarction (2018). Retrieved August 22, 2022, from https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000617

Selections:

- Yes
  - Enter date of occurrence post discharge
- No
- Not Documented

Required:
Yes

MI w/in 6 weeks

Data Abstraction Instructions:

Indicate if the patient had a myocardial infraction (MI) within 6 weeks prior to the index procedure as evidenced by the following:

- Acute myocardial infarction (<=7 days) manifested as a rise and fall of cardiac biomarkers (preferable troponin) with at least one of the values above the range of normal for your laboratory [above the 99th percentile of the upper reference limit (URL)] together with evidence of myocardial ischemia with at least one of the following:
  - ischemic symptoms;
  - ECG changes indicative of new ischemia (new ST-T changes or new left bundle branch block),
  - Development of pathological Q waves in the ECG;
  - Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality.
- Prior myocardial infarction (>7 days) manifested by
  - A myocardial infarction meeting the criteria of an acute MI, as documented in the medical record, or by either of the following:
    - Development of new pathological Q waves with or without symptoms.
    - Imaging evidence of a region of loss of viable myocardium that is thinned and fails to contract, in the absence of a non-ischemic cause.

Selections:

- Yes
- No

Required:
Yes

MRA Angiography Performed

Data Abstraction Instructions:

Indicate if a magnetic resonance (MR) angiogram was performed prior to the current carotid procedure.

Selections:

- Yes
- No

Required:
Yes

MRA CCA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for the MR Angiography, the highest percent (%) stenosis for the right common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

MRA CCA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for the MR Angiography, the highest percent (%) stenosis for the left common carotid artery (CCA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:

100

MRA ICA Highest % Stenosis - Right

Data Abstraction Instructions:

Indicate, for MR Angiography, the highest percent (%) stenosis for the right internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

MRA ICA Highest % Stenosis - Left

Data Abstraction Instructions:

Indicate, for MR Angiography, the highest percent (%) stenosis for the left internal carotid artery (ICA). If the vessel is totally occluded, enter 100%. If no stenosis is present, enter 0%. If a range is given, enter the highest value.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Magnetic Resonance Imaging/Magnetic Resonance Angiography (MRI/MRA)

Data Abstraction Instructions:

Indicate if an MRI/MRA was performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months and indicate if the study was normal or abnormal.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Normal
  - Abnormal
- No

Required:
Yes

Major surgery planned within next 8 weeks

Data Abstraction Instructions:

Indicate if the patient is receiving carotid revascularization in preparation for a major surgical procedure within eight weeks after the carotid procedure.

Indicate the type of major surgical procedure scheduled within eight weeks after the current admission. If more than one major surgery is scheduled, choose the type of surgery that is scheduled to be completed first.

Selections:

- Yes
  - Cardiac
  - Vascular
  - Other
- No

Required:
Yes

Mannitol administered during procedure

Data Abstraction Instructions:

Indicate if Mannitol was administered during procedure.

Selections:

- Yes
- No

Required:
Yes

Maximum AAA Diameter

Data Abstraction Instructions:

Enter the AAA largest diameter in millimeters. For ruptured AAA procedures, use not documented only if the value is not available.

Selections:

- Documented
  - Enter value in mm
- Not documented

Supporting Definitions:

Use largest diameter. If multiple imaging modality, use most accurate in following hierarchy: CT > MRI > ECHO > Arteriogram.

For AAA repair performed due only to iliac aneurysm size (no abdominal aortic aneurysm), enter Not Documented.

Required:
Yes
Suffix:
mm
Minimum:
25
Maximum:
200

Mechanical Aortic or Mitral Valve

Data Abstraction Instructions:

Indicate if the patient has a history of open surgical or percutaneous valve replacement with a mechanical mitral or aortic valve.

Enter No if the patient has received a biological (e.g., tissue) valve, had surgical valve repair (without valve replacement), or undergone percutaneous valve modification (including valvuloplasty, mitral annular remodeling, or mitral valve clipping/suturing), without mechanical valve replacement.

Selections:

- Yes
- No

Required:
Yes

Michigan OPEN (30-Day Follow-up Only)

Patient still taking opioid

Data Abstraction Instructions:

Indicate if the patient is still taking an opioid during the 30-day follow-up.

Selections:

- No
- Same as discharge
- New opioid/dose

Required:
Yes

Type of opioid

Data Abstraction Instructions:

Indicate the type of new opioid the patient is taking during the 30-day follow-up. Select all that apply.

Selections:

- Hydrocodone(Norco, Vicodin, Lortab, Lorcet)
- Oxycodone (OxyContin, Percocet, Roxicodone)
- Codeine (Tylenol 2, 3, or 4)
- Tramadol (Ultram, Ultram ER)
- Other (Fentanyl, Morphine, Hydromorphone, Dilaudid, Methadone, etc)

Required:
Yes

Opioid dose prescribed

Data Abstraction Instructions:

Indicate the dose of the new opioid that was prescribed during the 30-day follow-up. If the dose is in a range, enter the lower dose.

Selections:

Enter opioid dose prescribed

Required:
Yes

Opioid dose prescribed (unit)

Data Abstraction Instructions:

Indicate the units for the dose of opioid prescribed during the 30-day follow-up.

Selections:

- mg
- ml
- mcg/hr
- mg/ml
- mcg/ml
- other

Required:
Yes

Opioid Prescribing provider type

Data Abstraction Instructions:

Indicate the type of provider that wrote the opioid prescription during the 30-day follow-up.

Selections:

- Procedural physician/surgeon
- Primary care physician
- Other surgical physician
- Pain specialist
- Oncologist
- Other

Required:
Yes

Refills requested

Data Abstraction Instructions:

Indicate if the patient requested a refill of any opioid prescription during the 30-day follow-up.

Selections:

- Yes
- No

Required:
Yes

Refills given

Data Abstraction Instructions:

Indicate if the patient received additional refills of the opioid during the 30-day follow-up. These refills would be in addition to the refills that were prescribed at

discharge.

Selections:

- Yes
- No

Required:
Yes

Refill prescribing provider type

Data Abstraction Instructions:

Indicate the type of provider that wrote the additional opioid refill during the 30-day follow-up.

Selections:

- Procedural physician/surgeon
- Primary care physician
- Other surgical physician
- Pain specialist
- Oncologist
- Other

Required:
Yes

Modified Rankin Score (30-Day Follow-up Only)

Data Abstraction Instructions:

Enter the Modified Rankin Score (mRS) documented during the 30-day follow-up. Enter the mRS for patients who developed a new stroke post-procedure through the 30-day follow-up.

- A follow-up mRS value (i.e., 0, 1, 2, 3, 4, or 5) may be documented by the physician/APN/PA, nurse (RN), medical assistant, or any individual trained to perform the mRS.
- Select the highest value if more than one follow-up mRS value is documented.
- If a score range is documented, e.g., 2-3, enter the higher value.

The abstractor cannot derive an mRS from clinical documentation.

Selections:

- Yes
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
- No

Supporting Definitions:

Yes = There is documentation of an mRS during the 30-day follow-up.

No = There is no documentation of an mRS during the 30-day follow-up, or the 30-day follow-up mRS cannot be determined.

Required:
Yes

Monitoring During Procedure

Data Abstraction Instructions:

Indicate the type of neurologic monitoring per anesthesia/surgical team during the carotid endarterectomy. Select all that apply.

Selections:

- Yes
  - Awake
  - Cerebral monitoring
  - Stump pressure
  - EEG
  - Other
- No

Supporting Definitions:

Awake = Locoregional anesthesia is given (e.g., cervical plexus block or cervical epidural) that allows awake cerebral function monitoring.

Cerebral monitoring = Cerebral oximetry is a non-invasive, continuous monitoring device that monitors adequate cerebral oxygenation. Sensors are applied to the patient's forehead and attached to a monitor. With Somatosensory evoked potentials (SSEP), stimulating electrodes are placed on the ankle and wrist, and signals are sent to receiving electrodes placed on the scalp. If **cerebral oximetry** or **SSEP** was used to monitor the patient, enter **Cerebral monitoring**.

Stump pressure = an estimate of hemispheric blood flow by measuring pressure in the carotid stump distal to the clamp. Stump pressure is more often used to determine whether or not a shunt should be placed intraoperatively.

EEG = measurement of the spontaneous electrical activity of the brain. Electrodes are attached to the patient's scalp and connected to a monitor.

Other = a form of neurologic monitoring was used during the carotid endarterectomy that is not on the list.

Required:
Yes

Mycotic Aneurysm

Data Abstraction Instructions:

Indicate if the procedure was performed to repair an infected abdominal aortic aneurysm. When choosing the Indication of Mycotic Aneurysm for a primary AAA repair, do not enter the Indication of Infection.

Selections:

- Yes
- No

Required:
Yes

Myocardial Infarction (MI) (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if the patient had a myocardial infarction during the vascular procedure while the patient was still in the lab or operating room.

Selections:

- Yes
- No

Supporting Definitions:

Enter MI if the patient is diagnosed with Type 2 Myocardial Infarction, Type 1 NSTEMI, or STEMI. If no diagnosis is documented, enter MI if the patient has an elevated cardiac troponin value(s) greater than the 99th percentile URL (upper reference limit) with a rise and/or fall in troponin and at least one of the following:

- New ischemic EKG changes (S-T elevations, S-T depression, pathological Q waves)
- Shortness of breath
- Thrombus seen on angiogram or autopsy
- An Echo/MRI/Stress test that is positive for ischemia
- Chest pain
- Nausea

Reference: Thygesen, K., Alpert, J. S., Jaffe, A. S., Chaitman, B. R., Bax, J. J., Morrow, D. A., White, H. D., & The Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction. (2018, November 13). *Fourth Universal Definition of Myocardial Infarction (2018)*. Fourth universal definition of myocardial infarction (2018). Retrieved August 22, 2022, from https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000617

Required:
Yes

Myocardial Injury (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if the patient suffered any type of myocardial injury post procedure, including an Acute Myocardial Injury, Type 2 myocardial infarction, Type 1 NSTEMI or STEMI. If Yes is entered, indicate the date of the first elevated troponin value and the peak troponin value. **The peak troponin value should be obtained within 30 days of the procedure.**

Selections:

- Yes
  - Enter date of first occurrence post procedure _____
  - Enter type of injury:
    - Acute Myocardial Injury
    - Type 2 Myocardial Infarction
    - Type 1 NSTEMI
    - STEMI
    - Not documented
- No

Supporting Definitions:

Myocardial ischemia = The patient has one or more of the following:

- Chest pain
- Nausea
- Shortness of breath
- new ischemic EKG changes (S-T elevations, S-T depression, pathological Q waves)
- An Echo/MRI/Stress test that is positive for ischemia
- Thrombus seen on angiogram or autopsy

Acute Myocardial Injury = Elevated cardiac troponin value(s) greater than the 99th percentile URL (upper reference limit) with a rise and/or fall in troponin **without** myocardial ischemia. Some causes of an Acute Myocardial Injury are hypertension, acute heart failure, or myocarditis.

Type 2 Myocardial Infarction = Elevated cardiac troponin value(s) greater than the 99th percentile URL (upper reference limit) with a rise and/or fall in troponin **with** myocardial ischemia. With Type 2 Myocardial Infarction, a supply and demand imbalance is causing a stressor to the heart. Some causes of Type 2 Myocardial Infarction are severe hypertension, sustained tachyarrhythmias, hemorrhagic shock/anemia, sepsis, pulmonary embolism, hypoxia, respiratory failure, or heart failure.

Type 1 NSTEMI (Non-ST Elevation Myocardial Infarction) = Elevated cardiac troponin value(s) greater than the 99th percentile URL with a rise and/or fall in troponin **with** myocardial ischemia related to atherosclerotic plaque disruption, which causes a complete or partial blockage in the coronary artery. The EKG during an NSTEMI will not show ST elevations.

STEMI (ST Elevation Myocardial Infarction) = Elevated cardiac troponin value(s) greater than the 99th percentile URL with a rise and/or fall in troponin **with** myocardial ischemia related to atherosclerotic plaque disruption, which causes a complete or partial blockage in the coronary artery. The patient having a STEMI will develop new ST-segment elevations in 2 contiguous leads or new bundle branch blocks with ischemic repolarization patterns.

Not documented = The type of injury is not documented, or there is not sufficient information recorded to determine what type of injury the patient suffered.

No =

- A single abnormal troponin value was found without other criteria for myocardial injury.
- Troponins are elevated but stable (no rise and/or fall).
- The patient did not suffer a myocardial injury post procedure.

Reference: Thygesen, K., Alpert, J. S., Jaffe, A. S., Chaitman, B. R., Bax, J. J., Morrow, D. A., White, H. D., & The Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction. (2018, November 13). *Fourth Universal Definition of Myocardial Infarction (2018)*. Fourth universal definition of myocardial infarction (2018). Retrieved August 22, 2022, from https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000617

Required:
Yes

Peak post-operative troponin value

Data Abstraction Instructions:

Enter the peak value and type of troponin drawn within 30 days post procedure.

Selections:

Peak post-operative troponin

- Yes
  - troponin I

        - Yes
            - Enter lab value _____
            - Pick unit of lab value from list
                - ng/dL
                - ng/mL
                - ng/L
                - pg/mL
        - No
    - troponin T
        - Yes
            - Enter lab value _____
            - Pick unit of lab value from list
                - ng/dL
                - ng/mL
                - ng/L
                - pg/mL
        - No
    - troponin I HS
        - Yes
            - Enter lab value _____
            - Pick unit of lab value from list
                - ng/dL
                - ng/mL
                - ng/L
                - pg/mL
        - No
    - troponin T HS
        - Yes
            - Enter lab value _____
            - Pick unit of lab value from list
                - ng/dL
                - ng/mL
                - ng/L
                - pg/mL
        - No
- Not Drawn

Required:
Yes

NYHA Functional Class III or IV w/in 6 weeks

Data Abstraction Instructions:

Indicate if the patient's highest New York Heart Association (NYHA) cardiac functional class has been Class III or IV anytime within 6 weeks prior to the current procedure.

Enter No for patients without cardiac disease or patients with NYHA Class I or II.

Selections:

- Yes
- No

Supporting Definitions:

Patients with NYHA Class III and Class IV have anginal or heart failure symptoms, at rest, and/or resulting in marked limitation of physical activity. Class III and Class IV are formally defined as:

Class III = Patient has cardiac disease resulting in marked limitation of physical activity. Patient is comfortable at rest. However, less than ordinary physical activity (e.g., walking one to two level blocks or climbing one flight of stairs) causes fatigue, palpitations, dyspnea, or anginal pain.

Class IV = Patient has dyspnea at rest that increases with any physical activity. Patient has cardiac disease resulting in inability to perform any physical activity without discomfort. Symptoms may be present even at rest. If any physical activity is undertaken, discomfort is increased.

Required:
Yes

Nadir body temperature

Data Abstraction Instructions:

Enter the lowest body temperature in Celsius degrees that is taken after the procedure start time and before the procedure end time.

Selections:

- Yes
  - Enter value in Celsius
- Not documented

Required:
Yes
Suffix:
Celsius
Minimum:
30
Maximum:
40

Neurologic Deficit(s) Occurred Since Discharge

Data Abstraction Instructions:

Indicate if a new neurologic deficit has occurred since discharge. If yes, indicate the resolution timeframe, the date the neurologic deficit(s) occurred and the territory of neurologic deficit.

If the patient states they had neurological changes during a phone call, verify the information from the patient's medical record or physician.

Selections:

- Yes
  - Deficit occurred and resolved within 24 hours (i.e.TIA)
  - Deficit occurred and duration was greater than 24 hours, but did completely resolve
  - Persistent deficit occurred, lasted greater than 24 hours, and did not completely resolve
  - Enter date of occurrence post discharge
- No
- Not documented

Supporting Definitions:

- **Stroke**
  - Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories. Intracranial Hemorrhage or Hemorrhagic Strokes are caused by “bursting or leaking of blood vessels” in the brain and may lead to impaired functional outcomes. They are evidenced by intraparenchymal (e.g., hemorrhagic conversion of prior stroke) intracranial hemorrhage, subarachnoid intracranial hemorrhage, and/or subdural intracranial hemorrhage.
- **TIA**
  - A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Required:
Yes

Territory of Neurologic Deficit

Data Abstraction Instructions:

Indicate the territory of the neurologic deficit post discharge. Select all that apply. This field will display when Yes is entered for Neurologic Deficit(s) Occurred Since Discharge.

This information can be obtained through the patient's medical record or by calling their physician.

Selections:

- Right Retinal
- Left Retinal
- Right Hemispheric
- Left Hemispheric
- Vertebrobasilar
- Unknown

Supporting Definitions:

Symptoms of **ischemic stroke or TIA** in specific territories can include the following:

- Ischemia in the **retinal territory** can be manifested as Transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).
- Ischemia in the **hemispheric territory** supplied by the carotid artery can be manifested as:
  - language impairment
  - speech impairment or dysphasia
  - hemi-neglect
  - motor weakness
  - sensory loss
  - slurred speech ("dysarthria")
  - visual field cut (more common in the vertebrobasilar territory)
  - clumsiness or incoordination (more common in the vertebrobasilar territory)
- Ischemia in the **vertebrobasilar territory** can be manifested as:
  - vertigo (spinning sensation)
  - cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
  - “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)
  - motor weakness
  - sensory loss
  - slurred speech ("dysarthria")
  - visual field cut (more common in the vertebrobasilar territory)

Unknown = The territory of the deficit is unknown or cannot be identified.

Required:
Yes

Neurologic Event(s) prior to procedure

Data Abstraction Instructions:

Indicate if the patient experienced a neurologic event at any time prior to the current procedure. Neurologic events are defined as TIA (transient ischemic attack), ischemic stroke, or intracranial hemorrhage/hemorrhagic stroke, and are further described as:

- Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.
- Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.
- Intracranial Hemorrhage or Hemorrhagic Strokes are caused by “bursting or leaking of blood vessels” in the brain and may lead to impaired functional outcomes. They are evidenced by intraparenchymal (e.g., hemorrhagic conversion of prior stroke) intracranial hemorrhage, subarachnoid intracranial hemorrhage, and/or subdural intracranial hemorrhage.
  - Intraparenchymal – within the brain tissue. May occur in trauma or spontaneously with ICP.
  - Subarachnoid – between the brain and the meninges. Usually caused by rupture of cerebral aneurysms.
  - Subdural – on surface of brain. Usually caused by trauma, tumor, or infection.

Symptoms of transient ischemic attack or ischemic stroke in specific territories can include the following:

1. Ischemia in the retinal territory can be manifested as:

- Transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

2. Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect
- and/or, the symptoms noted in #4 (a through e) below

3. Ischemia in the vertebrobasilar territory can be manifested as:

- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)
- and/or, the symptoms noted in #4 (a through e) below

4. Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Selections:

- Yes
- No

Required:
Yes

TIA – Right Retinal

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving the right retinal territory and the timeframe the TIA occurred. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by a focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. Ischemia in the retinal territory can be manifested as Transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:

Yes

TIA – Left Retinal

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving the left retinal territory and the timeframe the TIA occurred. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by a focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. Ischemia in the retinal territory can be manifested as Transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

TIA – Right Hemispheric

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving the right hemispheric territory and the timeframe the TIA occurred. The right hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the right side of the brain. If there was more than one, enter the most recent occurrence prior to

the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

. Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

TIA – Left Hemispheric

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving the left hemispheric territory and the timeframe the TIA occurred. The left hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the left side of the brain. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

. Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

TIA – Vertebrobasilar

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving the vertebrobasilar territory and the timeframe the TIA occurred. The vertebrobasilar territory includes the brain stem and cerebellum. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago

- 31 to 180 days ago
- >/= to 181 days ago

- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Ischemia in the vertebrobasilar territory can be manifested as:

- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)

Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

TIA – Unknown

Data Abstraction Instructions:

Indicate if the patient experienced a Transient Ischemic Attack (TIA) involving an unknown territory and the timeframe the TIA occurred. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by a focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery.

Required:
Yes

Ischemic Stroke – Right Retinal

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving the right retinal territory and the timeframe the stroke occurred. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Ischemic Stroke – Left Retinal

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving the left retinal territory and the timeframe the stroke occurred. If there was more than one, enter the most recent occurrence prior or the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Ischemic Stroke – Right Hemispheric

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving the right hemispheric territory and the timeframe the stroke occurred. The right hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the right side of the brain. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Ischemic Stroke – Left Hemispheric

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving the left hemispheric territory and the timeframe the stroke occurred. The left hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the left side of the brain. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes.

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")

- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Ischemic Stroke – Vertebrobasilar

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving the vertebrobasilar territory and the timeframe the stroke occurred. The vertebrobasilar territory includes the brain stem and cerebellum. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Ischemia in the vertebrobasilar territory can be manifested as:

- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)

Symptoms of ischemia that can be manifested in either the carotid hemispheric territory and/or Vertebrobasilar territory include:

- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut (more common in the vertebrobasilar territory)
- clumsiness or incoordination (more common in the vertebrobasilar territory)

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Ischemic Stroke – Unknown

Data Abstraction Instructions:

Indicate if the patient experienced an ischemic stroke involving an unknown territory and the timeframe the stroke occurred. If there was more than one, enter the most recent occurrence prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes.

Required:
Yes

Intracranial Hemorrhage or Hemorrhagic Stroke - Intraparenchymal

Data Abstraction Instructions:

Indicate the timeframe if the patient experienced an intraparenchymal (e.g., hemorrhagic conversion of prior stroke) intracranial hemorrhage. If there was more than one, enter the most recent occurrence prior to admission or the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago

- >/= to 181 days ago
- No

Supporting Definitions:

Intracranial Hemorrhage or Hemorrhagic Strokes are caused by “bursting or leaking of blood vessels” in the brain and may lead to impaired functional outcomes. The intraparenchymal area is within the brain tissue and hemorrhages or hemorrhagic strokes in this area may occur in trauma or spontaneously with ICP.

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Intracranial Hemorrhage or Hemorrhagic Stroke - Subarachnoid

Data Abstraction Instructions:

Indicate the timeframe if the patient experienced a subarachnoid hemorrhage. If there was more than one, enter the most recent occurrence prior to admission or the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Intracranial Hemorrhage or Hemorrhagic Strokes are caused by “bursting or leaking of blood vessels” in the brain and may lead to impaired functional outcomes. The subarachnoid area is between the brain and the meninges. Hemorrhages or hemorrhagic strokes in this area are usually caused by rupture of cerebral aneurysms.

Note: The specific territory of the prior event should be confirmed by a physician and prior imaging studies may be of assistance to confirm the territory involved.

Required:
Yes

Intracranial Hemorrhage or Hemorrhagic Stroke – Subdural

Data Abstraction Instructions:

Indicate the timeframe if the patient experienced a subdural hemorrhage. If there was more than one, enter the most recent occurrence prior to admission or the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Supporting Definitions:

Intracranial Hemorrhage or Hemorrhagic Strokes are caused by “bursting or leaking of blood vessels” in the brain and may lead to impaired functional outcomes. The subdural area is on surface of brain. Hemorrhages or hemorrhagic strokes in this area are usually caused by trauma, tumor, or infection.

Required:
Yes

New Requirement for Dialysis

Data Abstraction Instructions:

Indicate if the patient had acute or worsening renal failure, post procedure, which led to dialysis during the hospitalization.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Required:
Yes

New Stroke

Data Abstraction Instructions:

Indicate if the patient experienced a new ischemic stroke during or after the current procedure and before discharge. If yes, specify all new events and resolution status.

Selections:

- Yes
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Required:
Yes

New Right Hemispheric or Retinal Neurologic Event Occurred (Stroke)

Data Abstraction Instructions:

Indicate if a new right ischemic hemispheric or retinal stroke developed during or after the current procedure. The right hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the right side of the brain.

Selections:

- Yes
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes.

Ischemia in the retinal territory can be manifested as transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Required:
Yes

New Right Hemispheric or Retinal Neurologic Event Resolved (Stroke)

Data Abstraction Instructions:

Indicate if the new ischemic right hemispheric or retinal stroke resolved prior to discharge. The right hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the right side of the brain.

Selections:

- Yes
- No

Required:
Yes

New Left Hemispheric or Retinal Neurologic Event Occurred (Stroke)

Data Abstraction Instructions:

Indicate if a new left ischemic hemispheric or retinal stroke developed during or after the current procedure. The left hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the left side of the brain.

Selections:

- Yes
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Ischemia in the retinal territory can be manifested as transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Required:
Yes

New Left Hemispheric or Retinal Neurologic Event Resolved (Stroke)

Data Abstraction Instructions:

Indicate if the new left ischemic hemispheric or retinal stroke resolved prior to discharge. The left hemispheric territory includes the frontal, parietal, occipital, and temporal lobes on the left side of the brain.

Selections:

- Yes
- No

Required:
Yes

New Vertebrobasilar Event Occurred (Stroke)

Data Abstraction Instructions:

Indicate if a new ischemic vertebrobasilar stroke developed during or after the current procedure. The vertebrobasilar territory includes the brain stem and cerebellum.

Selections:

- Yes
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Ischemia in the vertebrobasilar territory can be manifested as:

- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)
- visual field cut
- clumsiness or incoordination

Required:
Yes

New Vertebrobasilar Event Resolved (Stroke)

Data Abstraction Instructions:

Indicate if the new vertebrobasilar stroke resolved prior to discharge. The vertebrobasilar territory includes the cerebellum and brain stem.

Selections:

- Yes
- No

Required:
Yes

New Unknown Event Occurred (Stroke)

Data Abstraction Instructions:

Indicate if a new stroke developed in an unspecified or unknown location during or after the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Ischemic Strokes are caused by a “blockage of a blood vessel” resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes.

Required:
Yes

New Unknown Event Resolved (Stroke)

Data Abstraction Instructions:

Indicate if the unknown stroke resolved prior to discharge.

Selections:

- Yes
- No

Required:
Yes

New TIA

Data Abstraction Instructions:

Indicate if the patient experienced a new TIA during or after the current procedure and before discharge. If yes, specify the territory of all new events.

Selections:

- Yes
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.

Required:
Yes

New Right Hemispheric or Retinal Neurologic Event Occurred (TIA)

Data Abstraction Instructions:

Indicate if a new right hemispheric or retinal TIA developed during or after the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery.

Ischemia in the retinal territory can be manifested as transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Required:
Yes

New Left Hemispheric or Retinal Neurologic Event Occurred (TIA)

Data Abstraction Instructions:

Indicate if a new left hemispheric or retinal TIA developed during or after the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery.

Ischemia in the retinal territory can be manifested as transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only).

Ischemia in the hemispheric territory supplied by the carotid artery can be manifested as:

- language impairment
- speech impairment or dysphasia
- hemi-neglect

Required:
Yes

New Vertebrobasilar Event Occurred (TIA)

Data Abstraction Instructions:

Indicate if a new vertebrobasilar TIA developed during or after the current procedure.
Selections:

- Yes
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery.

Ischemia in the vertebrobasilar territory can be manifested as:

- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- “crossed” neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)
- visual field cut
- clumsiness or incoordination

Required:
Yes

New Unknown Event Occurred (TIA)

Data Abstraction Instructions:

Indicate if a new TIA developed in an unspecified or unknown location during or after the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery.

Required:
Yes

Open Bypass Re-operation

Data Abstraction Instructions:

Indicate if the patient had another operation during the follow-up to fix surgery issues from the original open bypass. If yes, indicate the reason. If the patient states they had another surgery during a phone call, you must verify the information from the patient's medical record or physician. Select all that apply

Selections:

- Yes
  - Lymph leak (seroma)
  - SSI
  - Dehiscence
  - Graft infection
  - Anticoagulation complication
  - Thrombectomy/lysis
  - Other
- Date the operation occurred
- No
- Not Documented

Supporting Definitions:

Lymph leak (seroma) = The patient had an operation to remove or drain a lymphatic leak (seroma) that developed after the associated open bypass.
SSI = The patient had an operation to treat a surgical site infection that developed after the associated open bypass.
Dehiscence = The patient had an operation to close a partial or total separation of previously approximated wound edges.
Graft infection = The patient had an operation to explant or to treat an infected graft.
Anticoagulation complication = The patient had an operation to treat a hematoma or stop bleeding.
Thrombectomy/lysis = The patient was readmitted to treat a thrombus surgically or medically.
Other = The patient had an operation to fix surgery issues not on this list.

Required:
Yes

Open Bypass SSI

Data Abstraction Instructions:

Indicate if the patient developed an SSI during the 30-Day follow-up.

Selections:

- No
- Superficial
- Deep
- Organ space

Supporting Definitions:

No = The patient did not develop an SSI.

Superficial = Superficial SSI involves only the skin and subcutaneous tissue of the incision, and the patient must have at least one of the following:

- Purulent drainage from the superficial incision
- Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
- Superficial incision was deliberately opened by the surgeon with at least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat, AND the obtained culture was positive or was not done. A culture-negative finding does not meet this criterion even if the incision was opened.
- Diagnosis of superficial incisional SSI by the surgeon or attending physician

Note: A localized stitch abscess, stab wound infection, and cellulitis without the above findings do not meet the criteria for SSI.

Deep = Deep SSI involves the deep soft tissues (e.g., fascial and muscle layers) of the incision, and the patient has at least one of the following:

- Purulent drainage from the deep layers of the incision (deep to subcutaneous tissue)
- A deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture-positive or not cultured, and the patient has at least one of the following signs or symptoms: fever (>38C degrees) or localized pain or tenderness. ***A culture-negative finding does not meet this criterion.***
- An abscess or other evidence of infection involving the deep incision is found on direct examination, during an invasive procedure, or by diagnostic tests.

Organ space = Organ/Space SSI involves any part of the anatomy (e.g., organs or spaces) other than the incision, which was opened or manipulated during an operation, and at least one of the following:

- Purulent drainage from a drain that is placed through a stab wound into the organ/space
- Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space
- An abscess or other evidence of infection involving the organ/space that is found on direct examination, during an invasive procedure, or by diagnostic tests
- Diagnosis of an organ/space SSI by a surgeon or attending physician

Required:
Yes

Other Cholesterol Lowering Agent (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking any other cholesterol lowering agent at the time of follow up, other than statins.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No

Supporting Definitions:

Examples of Other Cholesterol Lowering Medications are:

Generic Name	Brand Name
Bezafibrate	Bezalip
Ezetimibe	Zetia, Ezetrol
Fenofibrate	Tricor, Antara, Lipofen, Triglide, Lipidil Micro, Lipidil Supra, Lipidil EZ
Fenofribric Acid	Fibricor, TriLipix
Gemfibrozil	Lopid

Required:
Yes

Other Cholesterol Lowering Agents

Data Abstraction Instructions:

Record if a cholesterol lowering agent other than a statin or PSCK9 inhibitor was Given or Not Given at admission and/or discharge. Record only cholesterol lowering agents that are prescription strength. Do not record over-the-counter (OTC) medications.

Home Medications Prior to Admission?

- Enter Yes if the patient was taking a cholesterol lowering agent before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter No if the patient was not taking a cholesterol lowering agent before admission.

Medications at Discharge?

- Enter Yes if a cholesterol lowering agent was documented as a new medication or continued at discharge.
- Enter No if a cholesterol lowering agent was not documented as a new medication or was discontinued at discharge.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
Bezafibrate	Bezalip
Ezetimibe	Zetia, Ezetrol
Fenofibrate	Tricor, Antara, Lipofen, Triglide, Lipidil Micro, Lipidil Supra, Lipidil EZ
Fenofribric Acid	Fibricor, TriLipix
Gemfibrozil	Lopid

Required:
Yes

Other Hydration

Data Abstraction Instructions:

Record if fluids for hydration (other than 0.9 NS or LR) were Given or Not given during a procedure. If the infusion was administered, enter the timeframe (pre, during, post) and length of the infusion. Rate for inclusion must be >= 50 cc/hr.

PlasmaLyte and 0.45% NS are entered under Other Hydration. Include the volume of PlasmaLyte and 0.45% NS in the Total Crystalloids field under Procedure Details.

Medications During Procedure

- Enter Given if the fluid was given before, during or after the procedure
  - Pre = from admission or previous procedure until the current procedure.
  - During = fluid that was given from the time the patient enters the room until the time the patient leaves the room
  - Post = fluid that was given after the patient has left the room until discharge or next procedure.
- Enter Not Given if the fluid was not given.

Selections:

- Given
  - Infusion < 1 hour
    - Pre
    - During
    - Post
  - Infusion 1 - 3 hours
    - Pre
    - During
    - Post
  - Infusion ≥3 - 6 hours
    - Pre
    - During
    - Post
  - Infusion > 6 hours
    - Pre
    - During
    - Post

- Not Given

Required:
Yes

PSCK9 Inhibitor

Data Abstraction Instructions:

Record if a PSCK9 Inhibitor was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking a PSCK9 Inhibitor before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking a PSCK9 Inhibitor before admission.

Medications at Discharge?

- Enter Given if a PSCK9 Inhibitor was documented as a new medication or continued at discharge.
- Enter Not Given if a PSCK9 Inhibitor was not documented as a new medication or was discontinued at discharge.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name
Brand Name

Evolocumab
Repatha

Alirocumab
Praluent

Required:
Yes

Peak Intra Procedure Activated Clotting Time (ACT)

Data Abstraction Instructions:

Enter the highest measurement of ACT (peak) in seconds that was taken between the procedure start time and the procedure stop time. Enter "Not documented" if peak ACT or clotting measurement was not drawn/documented in the patient record.

Selections:

- Yes
  - Enter value in seconds
- Not documented

Supporting Definitions:

Activated clotting time (ACT) should be measured after the heparin IV bolus is given. In long cases, as clinically indicated, additional heparin boluses may be given, and subsequent ACT measurements may be done. The ACT recorded here must be done during the procedure and NOT at the end of the procedure. There must be some part of the intervention procedure performed after the ACT value for it to qualify for peak ACT.

The ACT may be documented on the anesthesia record. If the ACT is not documented on the anesthesia record, look under labs for an ABG (Arterial blood gas) that was drawn during the procedure.

Required:
Yes
Suffix:
seconds
Maximum:
600

Penetrating Ulcer

Data Abstraction Instructions:

Indicate if there is a penetrating ulcer present in the aneurysm and it is part of the indication for repair.

If a penetrating ulcer is present, indicate the size (mm).

Selections:

- Yes
  - Documented, enter value (mm)
  - Not Documented
- No

Required:
Yes
Minimum:
0
Maximum:
30

Peripheral Aneurysm Repair

Data Abstraction Instructions:

Indicate if the procedure is being performed for repair of a peripheral aneurysm. If you entered yes, indicate whether the patient is experiencing symptoms.

Selections:

- Yes
  - Symptomatic
  - Asymptomatic
- No

Supporting Definitions:

Peripheral aneurysms are aneurysms that develop in the upper or lower extremities.

Required:
Yes

Peripheral Arterial Disease (PAD)

Data Abstraction Instructions:

Indicate if the patient has a history of peripheral arterial disease prior to the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Peripheral arterial disease is characterized by any of the following:

- Claudication, either with exertion or at rest
- Amputation for arterial vascular insufficiency
- Vascular reconstruction, bypass surgery, or percutaneous intervention to the extremities
- Documented aortic aneurysm
- Positive noninvasive test (e.g., ankle brachial index less than 0.8)

Required:
Yes

Permanent Pacemaker or ICD

Data Abstraction Instructions:

Indicate if the patient has a permanent pacemaker or implantable cardioverter defibrillator (ICD) placed prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Persistent Hypotension

Data Abstraction Instructions:

Indicate if the patient experienced persistent hypotension for >24 hours post procedure requiring parenteral drug treatment. Hypotension is defined as a systolic blood pressure (SBP) <90 mm Hg or the need for IV vasopressors and/or atropine to maintain SBP>=90 mm Hg.

Selections:

- Yes
- No

Required:
Yes

Physician

Data Abstraction Instructions:

Choose the attending physician from the drop down list or create a physician identification if not already listed.

To enter a new physician name navigate to the drop down list. Click on (-1) Not Found / Other. Enter the physician's 10-digit NPI number in the Physician NPI field. Enter the physician's information in the Physician Name and Physician Specialty fields.

Go to the NIPPES NPI Registry website to find the operator's NPI number: https://npiregistry.cms.hhs.gov/search

Note: When entering the physician name enter [Last Name] space [First Name]. Do not use commas to separate the last name and first name. Use only a space to separate the last name and first name.

Selections:

- Choose physician

Supporting Definitions:

If physician is not available in the drop down, enter the physician's information to create a physician ID.

Required:
Yes

Popliteal Artery Entrapment Syndrome (PAES)

Data Abstraction Instructions:

Indicate if the procedure was performed for popliteal artery entrapment syndrome (PAES).

Selections:

- Yes
- No

Supporting Definitions:

PAES is caused by an anatomical anomaly. The condition can also develop over time, as exercise and training lead to an enlarged calf muscle that compresses the popliteal artery.

Required:
Yes

Post Procedure Nadir Hemoglobin

Data Abstraction Instructions:

Enter the lowest hemoglobin value documented from the end of the procedure to the next procedure or discharge, whichever occurs first. The next procedure is an open procedure.

Please refer to the VS Labs Timetable Multiple Procedures document on the BMC2 website under Additional VS Abstraction Resources for instructions on how to enter post procedure nadir hemoglobin when the next procedure is an open procedure.

Selections:

- Yes
  - Enter value g/dl
- Not drawn

Required:
Yes
Suffix:
g/dl
Minimum:
2
Maximum:
20

Post Procedure Peak Creatinine

Data Abstraction Instructions:

Enter the highest creatinine value documented from the end of the procedure to the next procedure or discharge, whichever occurs first. The next procedure for is a procedure that uses contrast.

Please refer to the VS Labs Timetable Multiple Procedures document on the BMC2 website under Additional VS Abstraction Resources for instructions on how to enter post procedure peak creatinine when the next procedure uses contrast.

Selections:

- Yes
  - Enter value mg/dl
- Not drawn

Required:
Yes
Suffix:
mg/dl
Minimum:
0.1
Maximum:
15

Post-discharge Creatinine

Data Abstraction Instructions:

Enter the highest Creatinine drawn within 3-5 days after discharge. If no labs are available in that timeframe, enter not drawn.

Enter a value between 0.1 mg/dL and 15 mg/dL. If the patient's post discharge creatinine value is outside of the limits, enter 0.1 for creatinine value <0.1 mg/dL. Enter 15 for creatinine value >15 mg/dL.

Selections:

- Drawn
  - Enter value mg/dl
- Not Drawn

Required:
Yes
Minimum:
0.1
Maximum:
15
Soft Minimum:
0.3

Prasugrel (Effient)

Data Abstraction Instructions:

Record if prasugrel (Effient) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking prasugrel before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking prasugrel before admission.

Medications at Discharge?

- Enter Given if prasugrel was documented as a new medication or continued at discharge.
- Enter Not Given if prasugrel was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to prasugrel.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to prasugrel.

Selections:

- Given
- Not Given
- Contraindicated
  - Yes
  - No

Required:
Yes

Prasugrel (Effient) PRE procedure

Data Abstraction Instructions:

Indicate if prasugrel (Effient) was given before the procedure (from admission or previous procedure until the current procedure) and if prasugrel (Effient) is contraindicated.

Contraindicated
Yes = the patient has an allergy, sensitivity, or adverse reaction to aspirin.
No = the patient does not have an allergy, sensitivity, or adverse reaction to aspirin.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Pre Admission Living Location

Data Abstraction Instructions:

Indicate the last living status prior to any current, acute hospitalization or rehabilitation stay.

Selections:

- Home
- Rehabilitation
- Nursing home/Extended Care
- Assisted Living
- Homeless
- Other

Required:
Yes

Pre Procedure BNP

Data Abstraction Instructions:

Enter the BNP value documented within the 30 days before the current procedure. If more than one BNP value is documented, enter the value that is closest to the procedure start time. If there is no value, enter not drawn.

If a patient has multiple procedures within a hospitalization, the pre-procedure labs should be abstracted after the previous procedure. If no labs are drawn from the end of the previous procedure to the start of the current procedure, enter "Not drawn".

Selections:

- Yes
    - Enter value pg/mL
- No

Required:
Yes
Suffix:
pg/mL

Pre Procedure Creatinine

Data Abstraction Instructions:

Enter the creatinine value documented within the 30 days before the current procedure. If more than one creatinine value is documented, enter the value that is closest to the procedure start time. If there is no value, enter Not drawn.

If a patient has multiple procedures within a hospitalization, the pre-procedure labs should be abstracted after the previous procedure. If no labs are drawn from the end of the previous procedure to the start of the current procedure, enter "Not drawn".

The range for Pre Procedure Creatinine is 0.1 - 15 mg/dL. Enter 0.1 for a Pre Procedure Creatinine this is <0.1. Enter 15 for a Pre Procedure Creatinine that is >15.

Selections:

- Yes
  - Enter value mg/dl
- Not drawn

Required:
Yes
Suffix:
mg/dl
Minimum:
0.1
Maximum:
15
Soft Minimum:
0.3

Pre Procedure Hemoglobin (Hgb)

Data Abstraction Instructions:

Enter the hemoglobin value documented within the 30 days before the current procedure. If more than one hemoglobin value is documented, enter the value that is closest to the procedure start time. If there is no value, mark "Not drawn."

If a patient has multiple procedures within a hospitalization, the pre-procedure labs should be abstracted after the previous procedure. If no labs are drawn from the end of the previous procedure to the start of the current procedure, enter "Not drawn".

The Pre Procedure Hemoglobin range is 2 - 20 g/dL. Enter 2 for a hemoglobin value <2. Enter 20 for a hemoglobin value >20.

Selections:

- Yes
  - Enter value g/dl
- Not drawn

Required:
Yes
Suffix:
g/dl
Minimum:
2
Maximum:
20
Soft Minimum:
5
Soft Maximum:
18

Pre Procedure Modified Rankin Score (CAS)

Data Abstraction Instructions:

Enter the Modified Rankin Score (mRS) documented within 6 months of the current procedure. This field will display when Yes is entered for any stroke under Neurologic Event(s) prior to procedure or Yes is entered for Acute Evolving Stroke. The Pre-procedure Modified Rankin Score field will be located after Acute Evolving Stroke.

The mRS assesses disability in patients who have suffered a stroke and is compared over time to check for recovery and degree of continued disability.

- A pre-procedure mRS value (i.e., 0, 1, 2, 3, 4, or 5) may be documented by the physician/APN/PA, nurse (RN), medical assistant, or any individual trained to perform the mRS.
- Select the highest value if more than one pre-procedure mRS value is documented.
- If a score range is documented, e.g., 2-3, enter the higher value.
- The abstractor cannot derive an mRS from clinical documentation.

Selections:

- Yes
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
- No

Supporting Definitions:

Yes = There is documentation of an mRS within 6 months of the current procedure.

No = There is no documentation of an mRS within 6 months of the current procedure, or the mRS cannot be determined.

Required:
Yes

Pre Procedure Troponin

Data Abstraction Instructions:

Enter the Troponin I, Troponin T, Troponin I HS (High Sensitivity) or Troponin T HS value documented within the 30 days before the procedure. If more than one value exists, use the value closest to the procedure start time. If there is no value, enter not drawn.

If a patient has multiple procedures within a hospitalization, the pre-procedure labs should be abstracted after the previous procedure. If no labs are drawn from the end of the previous procedure to the start of the current procedure, enter "Not Drawn" for the initial Troponin field.

Selections:

- Yes
  - Pre procedure troponin I
    - Yes
      - Pick unit of lab value from list
        - ng/dL
        - ng/mL
        - ng/L
        - pg/mL
      - Enter lab value
    - No
  - Pre procedure troponin T
    - Yes
      - Pick unit of lab value from list
        - ng/dL
        - ng/mL
        - ng/L
        - pg/mL
      - Enter lab value
    - No
  - Pre procedure troponin I HS
    - Yes
      - Pick unit of lab value from list
        - ng/dL
        - ng/mL
        - ng/L
        - pg/mL
      - Enter lab value
    - No
  - Pre procedure troponin T HS
    - Yes
      -

Pick unit of lab value from list
- ng/dL
- ng/mL
- ng/L
- pg/mL

Enter lab value

- No
- Not Drawn

Required:
Yes
Suffix:
ng/dL, ng/mL, ng/L, pg/mL

Pre procedure % Stenosis (CAS)

Data Abstraction Instructions:

Indicate the pre-procedure stenosis from the procedure angio or the stenosis dictated by the physician in the operative note.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Pre-Procedure Exercise Therapy

Data Abstraction Instructions:

Indicate if there is documentation that the patient participated in a structured/supervised or home based/informal pre-procedure exercise program before the hospitalization. **Participation in a cardiac rehab program does not qualify.**

Note: If the patient participated in both a structured/supervised **and** a home based/information exercise program, enter Structured/Supervised since you can only choose one option.

Selections:

- Yes
  - Structured/Supervised
    - Completed
    - Incomplete, Patient Refused
    - Incomplete, Patient Terminated
    - Not Documented
  - Home Based/Informal
    - Completed
    - Incomplete, Patient Refused
    - Incomplete, Patient Terminated
    - Not Documented
- No

Supporting Definitions:

Yes = The patient participated in a pre-procedure exercise program.

Structured/Supervised = The patient participated in a structured/supervised exercise program that meets the following criteria.

- Consist of sessions lasting 30-60 minutes comprising a therapeutic exercise-training program for PAD in patients with claudication.
- Conducted in a hospital outpatient setting, or a physician's office.
- Delivered by qualified auxiliary personnel necessary to ensure benefits exceed harms and who are trained in exercise therapy for PAD.
- Under the direct supervision of a physician, physician assistant, or nurse practitioner/clinical nurse specialist who must be trained in both basic and advanced life support techniques.

Home Based/Informal = The patient participated in an informal exercise program that meets the following criteria.

- Takes place in the personal setting of the patient rather than in a clinical setting.
- Self-directed with guidance of healthcare providers.
- Healthcare providers prescribe an exercise regimen similar to that of a supervised program.

Completed = The patient finished the pre procedure exercise program.

Incomplete, Pt refused = The patient refused to participate in a pre-procedure exercise program.

Incomplete, Pt terminated = The patient participated in a pre-procedure exercise program but did not finish the course.

Not Documented = There is no documentation that the patient completed the pre-procedure exercise program, or the documentation is not clear.

No = The patient did not participate in a pre-procedure exercise program.

Required:
Yes

Pre-operative opioid use

Data Abstraction Instructions:

Indicate if the patient was taking a prescribed opioid in the 30 days prior to admission. This includes any opioids taken in the last 30 days.

If Yes is entered, indicate the type of opioid as well as the dose/unit.

Selections:

- Yes
- No

Supporting Definitions:

Hydrocodone = Norco, Vicodin, Lortab, Lorcet

Oxycodone = OxyContin, Percocet, Roxicodone

Codeine = Tylenol #2, #3, or #4

Tramadol = Ultram, Ultram ER

Other = Fentanyl, Morphine, Hydromorphone, Dilaudid, Methadone, etc.

Required:
Yes

Type of opioid

Data Abstraction Instructions:

Enter the type of opioid that was prescribed in the 30 days prior to admission. Select all that apply.

Selections:

- Hydrocodone (Norco, Vicodin, Lortab, Lorcet)
- Oxycodone (OxyContin, Percocet, Roxicodone)
- Codeine (Tylenol 2, 3, or 4)
- Tramadol (Ultram, Ultram ER)
- Other (Fentanyl, Morphine, Hydromorphone, Dilaudid, Methadone, etc.)

Required:
Yes

Pre-operative opioid dose prescribed

Data Abstraction Instructions:

Enter the dose of the opioid that was prescribed in the 30 days before admission. If no dose is available, choose Not documented. If the dose is in a range, enter the lower dose. Example: Oxycodone 5-10mg.

Selections:

- Yes
  - Enter dose
- Not Documented

Required:
Yes

Pre-operative opioid dose prescribed (unit)

Data Abstraction Instructions:

Enter the units of the opioid dose that was prescribed in the 30 days prior to admission.

Selections:

- mg
- ml
- mcg/hr
- mg/ml
- mcg/ml
- other

Required:
Yes

Pre-procedure Smoking Cessation

Data Abstraction Instructions:

Indicate if the patient received physician-delivered advice, a prescription for nicotine replacement, and/or a referral for smoking cessation services before admission to the hospital. These interventions would be implemented to prepare the patient for the current procedure. Select all that apply.

The pre-procedure smoking cessation field will display when Yes is entered for Current Smoker.

Selections:

- Yes
    - Physician delivered advice
        - Patient refused
            - Yes
            - No
    - Pharmacotherapy
        - Patient refused
            - Yes
            - No
    - Referral to smoking counseling services
        - Patient refused
            - Yes
            - No
        - Local counseling service
        - Michigan Quitline
        - Other counseling service
- No

Supporting Definitions:

Yes = One of the three smoking cessation interventions was implemented before admission to the hospital.

Physician delivered advice = A surgeon, advanced practice personnel (PA, NP), or resident has a conversation with the patient and recommends the patient stop smoking. A recommendation to stop smoking offered by a nurse, respiratory therapist or student does not count as physician-delivered advice.

If there is documentation that the provider recommended smoking cessation and the patient refused, enter Physician delivered advice AND Patient refused. There must be adequate documentation to support this claim.

Pharmacotherapy = The provider ordered Pharmacotherapy before admission to the hospital. Pharmacotherapy may include a nicotine patch, gum, lozenge, or other pharmacologic assistance (Varenicline, Bupropion, etc.).

If a patient refuses Pharmacotherapy, and there is provider documentation that Pharmacotherapy was offered and documentation that the patient refused, enter Pharmacotherapy AND Patient refused.

Referral to smoking counseling services = The provider documents they referred the patient to a smoking counseling service. Smoking counseling services may include a smoking counseling service, a smoking cessation program, a smoking cessation class, the Michigan Tobacco Quitline, or a national smoking cessation service. The provider must recommend a smoking counseling service to the patient. The standard message to stop smoking on the AVS or discharge summary template is not sufficient.

If a physician, mid-level provider, or resident does an assessment and then refers the patient to a respiratory therapist or a dedicated smoking cessation nurse to provide smoking cessation education, you can choose Referral to smoking counseling services.

If there is documentation that the provider recommended smoking counseling services and the patient refused, enter Referral to smoking counseling services, AND Patient refused. There must be adequate documentation to support this claim.

Patient Refused = The provider documented that the patient refused the corresponding intervention.

Local counseling service = The provider refers the patient to the hospital's smoking counseling service or a community-based smoking counseling service. Enter Referral to smoking counseling services AND Local counseling service.

Michigan Quitline = The provider refers the patient to the Michigan Tobacco Quitline. Enter Referral to smoking counseling services AND Referral to Michigan Quitline.

Other counseling service = The provider refers the patient to a Federal or National smoking cessation service. Enter Referral to smoking counseling services AND Other counseling service.

No = None of the three smoking cessation interventions were implemented before admission to the hospital.

Required:
Yes

Predilation Prior to Embolic Protection Device Deployment (CAS)

Data Abstraction Instructions:

Indicate whether predilation was attempted prior to the deployment of the embolic protection device. The flow reversal system used for TCAR has the EPD filter built into the system.

Selections:

- Yes
- No

Required:
Yes

Previous Carotid Intervention

Data Abstraction Instructions:

Indicate if the patient had a previous carotid endarterectomy, carotid artery angioplasty or carotid stent procedure prior to the current procedure. If there was more than one procedure (i.e., more than one carotid artery stent procedure on the right carotid artery), enter the most recent occurrence for each intervention.

Selections:

- Yes
- No

Required:
Yes

Previous Right CEA Timeframe

Data Abstraction Instructions:

Indicate the timeframe of the most recent carotid endarterectomy (CEA) for the right side, prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Required:
Yes

Previous Right CAS Timeframe

Data Abstraction Instructions:

Indicate the timeframe of the most recent carotid angioplasty and/or stent procedure for the right side, prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Required:
Yes

Previous Left CEA Timeframe

Data Abstraction Instructions:

Indicate the timeframe of the most recent carotid endarterectomy (CEA) for the left side, prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago
  - 31 to 180 days ago
  - >/= to 181 days ago
- No

Required:
Yes

Previous Left CAS Timeframe

Data Abstraction Instructions:

Indicate the timeframe of the most recent carotid angioplasty and/or stent procedure for the left side, prior to the current procedure.

Selections:

- Yes
  - </= to 30 days ago 31 to 180 days ago
    >/= to 181 days ago
  -
- No

Required:
Yes

Previous Laryngeal Nerve Palsy

Data Abstraction Instructions:

Indicate if the patient has a history of laryngeal nerve palsy prior to the current procedure and indicate the location of the laryngeal nerve palsy, either right or left. Laryngeal nerve palsy is defined as paralysis of the larynx caused by damage to the recurrent laryngeal nerve or its parent nerve, the vagus nerve.

Selections:

- Yes
  - Right
  - Left
- No

Supporting Definitions:

Yes - Right = Laryngeal Nerve Palsy located on right side of the neck.

Yes - Left = Laryngeal Nerve Palsy located on left side of the neck.

No = No Laryngeal Nerve Palsy.

Required:
Yes

Previous Myocardial Infarction (MI)

Data Abstraction Instructions:

Indicate if the patient has had at least one documented previous myocardial infarction. This includes any MI diagnosed between birth and the current procedure.

Selections:

- Yes
  - MI less than, or equal to, 30 days prior to procedure
  - MI greater than 30 days to 6 months prior to procedure
  - MI greater than 6 months prior to procedure
  - Not documented
- No

Supporting Definitions:

Enter Previous MI if the patient is diagnosed with Type 2 Myocardial Infarction, Type 1 NSTEMI, or STEMI. If no diagnosis is documented, enter MI if the patient has an elevated cardiac troponin value(s) greater than the 99^{th} percentile URL (upper reference limit) with a rise and/or fall in troponin and at least one of the following:

- Chest pain
- Nausea
- Shortness of breath
- new ischemic EKG changes (S-T elevations, S-T depression, pathological Q waves)
- An Echo/MRI/Stress test that is positive for ischemia
- Thrombus seen on angiogram or autopsy

Reference:
Thygesen, K., Alpert, J. S., Jaffe, A. S., Chaitman, B. R., Bax, J. J., Morrow, D. A., White, H. D., & The Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction. (2018, November 13). Fourth Universal Definition of Myocardial Infarction (2018). Fourth universal definition of myocardial infarction (2018). Retrieved August 22, 2022, from https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000617

Required:
Yes

Previous Neck Radiation

Data Abstraction Instructions:

Indicate if the patient had previous radiation therapy to the neck prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Prior Aortic Surgery

Data Abstraction Instructions:

Enter the year, and type of repair, of the prior procedure (yyyy).

Selections:

- Yes
  Enter year
  Select option
    - AAA (Infrarenal)
    - SAAA (Suprarenal)
    - Bypass
    - Other (Endarterectomy or Other)
- No

Required:
No
Minimum:
1900
Maximum:
9999

Prior Congestive Heart Failure (CHF)

Data Abstraction Instructions:

Indicate if there is a previous history of heart failure/ischemic cardiomyopathy.

Selections:

- Yes
- No

Supporting Definitions:

A previous hospital admission with principal diagnosis of heart failure is considered evidence of heart failure history. Heart failure is defined as physician documentation or report of any of the following clinical symptoms of heart failure described as unusual dyspnea on light exertion, recurrent dyspnea occurring in the supine position, fluid retention; or the description of rales, jugular venous distension, pulmonary edema on physical exam, or pulmonary edema on chest X-ray. A low ejection fraction alone, without clinical evidence of heart failure, does not qualify as heart failure.

Required:
Yes

Prior Coronary Artery Bypass Graft (CABG)

Data Abstraction Instructions:

Indicate if the patient has had a coronary artery bypass surgery at any time prior to the current procedure. This includes CABG performed after admission but prior to the current procedure.

Selections:

- Yes
    - CABG less than, or equal to, 30 days prior to procedure
    - CABG greater than 30 days to 6 months prior to procedure
    - CABG greater than 6 months prior to procedure
    - Not documented
- No

Required:
Yes

Prior Family History of AAA

Data Abstraction Instructions:

Indicate if a relative (parent, sibling, aunt, uncle, child) has/had a history of AAA.

Selections:

- Yes
- No

Required:
Yes

Prior PVI Procedures

Enter PVI procedures performed before the current VS procedure. Do not collect failed PVI procedures.

If the patient had multiple prior PVI procedures, enter the 5 PVI procedures performed closest to the current VS procedure.

If the patient had a PVI procedure before the current VS procedure during the same discharge, enter the PVI procedure under Prior PVI Procedures.

How many prior PVI procedures?

Data Abstraction Instructions:

BMC2 VS collects the most recent 5 PVI procedures that were performed before the current VS or carotid procedure. Enter the number of forms you will fill out, one form for each prior PVI procedure (up to 5 procedures).

Required:
Yes

Prior Procedure Date

Data Abstraction Instructions:

Enter the procedure date of the prior PVI procedure. If only year is documented, enter one for month and day (01/01/yyyy).

Selections:

- Enter date if known

Required:
No

Artery Location

Data Abstraction Instructions:

Enter the artery treated during the prior PVI procedure.

Selections:

- Choose artery location from the drop down list

Required:
Yes

PTA (percutaneous transluminal angioplasty)

Data Abstraction Instructions:

Indicate if balloon device was used during the PVI.

Selections:

- Yes
- No

Required:
Yes

Stent

Data Abstraction Instructions:

Indicate if any type of stent was used during the PVI.

Selections:

Yes
- No
-

Required:
Yes

Atherectomy

Data Abstraction Instructions:

Indicate if atherectomy device was used during the PVI. (e.g., laser, rotational/orbital, directional, other atherectomy).

Selections:

- Yes
- No

Required:
Yes

Thrombolysis

Data Abstraction Instructions:

Indicate if patient underwent local or systemic thrombolysis for arterial occlusion/thrombosis.

Selections:

- Yes
- No

Required:
Yes

Other Peripheral Intervention

Data Abstraction Instructions:

Indicate if a device other than balloon, stent or atherectomy was previously used (cryoplasty, cutting balloon, etc.).

Selections:

- Yes
- No

Required:
Yes

Prior Percutaneous Coronary Intervention (PCI)

Data Abstraction Instructions:

Indicate if the patient has a previous percutaneous coronary intervention. This includes any occurrence between birth and the current procedure. This includes PCI performed after admission, but prior to the current procedure.

Selections:

- Yes
    - PCI less than, or equal to, 30 days prior to procedure
    - PCI greater than 30 days to 6 months prior to procedure
    - PCI greater than 6 months prior to procedure
    - Not documented
- No

Required:
Yes

Prior Vascular Surgery Procedures

Enter VS procedures performed before the current VS procedure.

If the patient had multiple prior VS procedures, enter the 5 VS procedures performed closest to the current VS procedure.

If the patient had a VS procedure before the current VS procedure in the same discharge, enter this procedure under Prior Vascular Surgery Procedures.

How many prior Vascular Surgery procedures?

Data Abstraction Instructions:

BMC2 VS collects the most recent 5 VS procedures that were performed before the current VS or carotid procedure. Enter the number of forms you will fill out, one form for each prior VS procedure (up to 5 procedures).

Required:
Yes

Bypass

Data Abstraction Instructions:

Indicate if the patient had a prior bypass.

Selections:

- Yes
- No

Required:
No

Bypass Date

Data Abstraction Instructions:

Specify the date (mm/dd/yyyy) of the prior bypass. If only year is known, enter one for month and day (01/01/yyyy).

Selections:

- Enter date if known

Required:
No

Bypass Origin

Data Abstraction Instructions:

Select the origin point of the bypass (inflow) from the drop down list. Example: If the patient has a fem-pop bypass, the origin of the bypass is the common femoral artery, and the insertion of the bypass is the popliteal artery.

Selections:

- Choose Bypass Origin from drop down list

Required:
Yes

Insertion Point

Data Abstraction Instructions:

Select the insertion point (outflow) of the bypass from the dropdown list. Example: If the patient has a fem-pop bypass: the origin of the bypass is the common femoral artery, and the insertion of the bypass is the popliteal artery.

Selections:

- Choose Insertion Point from the drop down list.

Supporting Definition:

Required:

Yes

Insertion Point #2

Data Abstraction Instructions:

Select the second insertion point (outflow) from the dropdown list if applicable. For example, if an aorto-bifemoral bypass was performed. Enter the right CFA for the insertion point and the left CFA for the 2nd insertion point.

Selections:

- Choose insertion point #2 from the drop down list.

Required:
No

Type of Graft

Data Abstraction Instructions:

Select the type of graft used for the bypass.

Selections:

- Vein
- Synthetic
- Not documented

Required:
Yes

Endarterectomy

Data Abstraction Instructions:

Indicate if the patient has had a prior open endarterectomy.

Selections:

- Yes
- No

Required:
Yes

Endarterectomy Date

Data Abstraction Instructions:

Enter the date (mm/dd/yyyy) of the prior open endarterectomy. If only year is known, enter one for month and day (01/01/yyyy).

Selections:

- Enter date if known

Required:
No

Endarterectomy Location

Data Abstraction Instructions:

Select the vessel that was treated with open endarterectomy or patch angioplasty from the dropdown list.

Selections:

- Choose vessel location from the drop down list.

Required:
Yes

Aneurysm Repair

Data Abstraction Instructions:

Indicate if the patient had a prior open aneurysm repair.

Selections:

- Yes
- No

Required:

Yes

Aneurysm Repair Date

Data Abstraction Instructions:

Ener the date (mm/dd/yyyy) of the open aneurysm repair. If only year is known, enter one for month and day (01/01/yyyy).

Selections:

- Enter date if known

Required:
No

Aneurysm Repair Location

Data Abstraction Instructions:

Select the vessel of the open aneurysm repair from the dropdown list.

Selections:

- Choose vessel location from drop down list.

Required:
Yes

Amputation

Data Abstraction Instructions:

Indicate if the patient had a prior amputation.

Selections:

- Yes
- No

Required:
No

Amputation Date

Data Abstraction Instructions:

Enter the date (mm/dd/yyyy) of the amputation. If only year is known, enter one for month and day (01/01/yyyy).

Selections:

- Enter date if known

Required:
No

Amputation Point

Data Abstraction Instructions:

Select the most proximal amputation point.

- RAKA = right above the knee amputation
- LAKA = left above the knee amputation
- RBKA = right below the knee amputation
- LBKA = left below the knee amputation
- R T-MET = right trans-metatarsal
- L T-MET = left trans-metatarsal
- R DIGIT = right digit
- L DIGIT = left digit

Selections:

Required:
Yes

Prior lytic procedure

Data Abstraction Instructions:

Indicate if the patient had a prior lytic procedure during the current hospitalization.

Selections:

- Yes
- No

Supporting Definitions:

Thrombolytic therapy is the administration of drugs called lytics or “clot busters” to dissolve blood clots that have acutely (suddenly) blocked your major arteries or veins and pose potentially serious or life-threatening implications. The length of a treatment session varies depending on the underlying cause.

Required:
Yes

Prior neck surgery (other than CEA)

Data Abstraction Instructions:

Indicate if the patient had a previous extensive (i.e., radical) neck dissection (other than carotid endarterectomy [CEA]) prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Procedural Arterial Access Site (CAS)

Data Abstraction Instructions:

Enter the primary arterial access site utilized to perform the carotid artery stenting (CAS) procedure.

Selections:

- Femoral
- Brachial/Radial/Axillary
- Direct Carotid Puncture
- Carotid Cutdown
- Other

Supporting Definitions:

Femoral = Percutaneous (through the skin) puncture or cutdown (incision with a surgical blade) of the femoral artery.

Brachial/Radial/Axillary = Percutaneous (through the skin) puncture or cutdown (incision with a surgical blade) of the brachial, radial, or axillary artery.

Direct Carotid Puncture = Percutaneous (through the skin) puncture of the carotid artery.

Carotid Cutdown = Surgical cutdown (incision with a surgical blade) in the neck with a direct puncture into the carotid artery with visualization.

Other = Percutaneous (through the skin) entry or cutdown (incision with a surgical blade) to a site that is not the femoral, brachial, radial, axillary, or carotid artery.

Required:
Yes

Procedure Aborted

Data Abstraction Instructions:

Indicate if the procedure was aborted prior to endograft placement (for any reason).

Selections:

- Yes
- No

Required:
Yes

Procedure Date & Start Time

Data Abstraction Instructions:

Enter the date of the current procedure and enter the time the procedure was initiated (military time). BMC2 VS collects qualifying cases when the patient is ≥18 years old from the procedure date.

There are two ways to enter the procedure date & start time.

In the Procedure Date & Start Time field type the two digit day, two digit month, and four digit year. Hit the spacebar once. Then type the two digit hour, enter a colon, and type the two digit minutes. For example, the procedure date and start time is June 16, 2023, at 12:21 p.m. You will type into this field 16062021 12:21. Hit the Tab key to go to the Procedure End Date & Time field.

- OR -

Click on the calendar and choose the month, year, and day of the current procedure. Use the slider below to enter the time the procedure was initiated. Click Done so that your response can be recorded.

Selections:

- Enter Date & Time

Supporting Definitions:

The time the procedure started is defined as the time which local anesthetic was first administered for vascular access, or the time of the first attempt at vascular access for the peripheral intervention (use whichever is earlier), or incision time for open vascular surgery procedures. If an arterial sheath is already in place, use the time of the introduction of a catheter or the time the sheath was exchanged.

Required:
Yes

Procedure End Date & Time

Data Abstraction Instructions:

Enter the date and time the procedure ends (military time).

There are two ways to enter the procedure end date & time.

In the Procedure End Date & Time field type the two digit day, two digit month, and four digit year. Hit the spacebar once. Then type the two digit hour, enter a colon, and type the two digit minutes. For example, the procedure end date and time is June 16, 2023, at 12:21 p.m. You will type into this field 16062021 12:21. Hit the Tab key to go to the next field.

- OR -

Click on the calendar and choose the month, year, and day of the current procedure. Use the slider below to enter the time the procedure ended. Click Done so that your response can be recorded.

Selections:

- Enter Date & Time

Supporting Definitions:

The time the procedure ended is defined as the time the primary operator leaves the room for peripheral interventions. End time for open surgical procedures is defined as the time when all instrument and sponge counts are completed; all dressings and drains are secured; and the physicians/surgeons have completed all procedure-related activities on the patient. Should the patient expire in the procedure area, indicate the time the patient was pronounced. I

Required:
Yes

Procedure Number

Data Abstraction Instructions:

Enter '1' in the data field for the first procedure you enter during this discharge. If there are multiple procedures during this discharge, enter '2' for the following procedure. For multiple procedures performed during the same OR time, enter a different procedure number.

Selections:

Enter procedure number in the data field.

Required:
Yes

Procedure Types

Data Abstraction Instructions:

Choose the type(s) of procedures performed. Select all that apply.

Selections:

- Open AAA
- EVAR
- Open Bypass
- Open Thrombectomy

Required:
Yes

Open AAA

Data Abstraction Instructions:

Indicate if the patient had the applicable procedures during follow-up after an open AAA procedure.

Selections:

- Yes
- No

Required:
Yes

Open AAA Subsequent Operations

Data Abstraction Instructions:

Indicate if the patient had subsequent operations related to AAA repair. Enter the indication for the additional procedure. Select all that apply.

Open AAA Subsequent Operations can be obtained from the patient's medical record. This information cannot be obtained from interviewing the patient.

Selections:

- Open AAA Subsequent Operations
  - Incision
  - Graft
  - Intestine
  - Leg Ischemia
    - Enter date of occurrence post discharge

Supporting Definitions:

Incision = additional procedure related to infection or hernia.

Graft = additional procedure related to infection, thrombosis, pseudo-aneurysm, or aortoenteric fistula.

Intestine = additional procedure related to bowel obstruction or aortoenteric fistula.

Leg ischemia = additional procedure related to thrombosis or embolism.

Required:
Yes

EVAR

Data Abstraction Instructions:

Indicate if the patient had the applicable procedures during follow-up after an EVAR procedure.

Selections:

- Yes
- No

Required:
Yes

EVAR 1-Year Renal Failure Replacement Therapy

Data Abstraction Instructions:

Indicate if the patient had hemodialysis, CAPD, or CRRT during the 1-year follow-up timeframe for EVAR procedures only. Enter the date the renal failure replacement therapy was initiated. If no date is documented enter not documented.

EVAR 1-Year Renal Failure Replacement Therapy can be obtained through the medical record or a phone call to the patient.

Selections:

- Yes
  - Enter date
- Not documented

Required:
Yes

EVAR 1-Year Creatinine Value

Data Abstraction Instructions:

Enter the Creatinine value and the date of the Creatinine value that is documented during the 1-year follow-up timeframe for EVAR procedures only.

This value must be taken from the patient's medical record.

Selections:

- Yes
  - Enter Creatinine Value (mg/dl)
  - Enter Date
- No

Required:
Yes

EVAR imaging performed

Data Abstraction Instructions:

Indicated if the patient had a CT or US 6-14 months after the date of discharge. Enter the date the imaging was performed.

Selections:

- Yes
  - Enter date on the imaging report
- No

Required:
Yes

EVAR Current AAA diameter

Data Abstraction Instructions:

Enter the value for the maximum AAA diameter during the follow-up timeframe in mm. This value can be found on a CT or US report.

NOTE: This is not the diameter of the endograft. This is the current diameter of the aneurysm to identify if sac growth has occurred.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- EVAR Current AAA Diameter
  - Enter value in mm.
- No

Required:
Yes
Suffix:
mm
Minimum:
0
Maximum:
200

EVAR Current Endoleak

Data Abstraction Instructions:

Indicate what type of endoleak the patient has during the follow-up timeframe.

This information will be gathered from a patient's medical record and not from interviewing the patient. This information can be found on a CT or US imaging report, office, or hospital progress notes.

Selections:

- Yes
    - Type 1
    - Type 2
    - Type 3
    - Indeterminate
- No

Supporting Definitions:

Type 1 = Proximal or distal attachment site leak.

Type 2 = Retrograde filling of sac via lumbars, IMA or accessory renals.

Type 3 = Filling of sac via leak at component overlap sites or fabric tear.

Indeterminate = The area of endoleak cannot be determined or is unknown.

Required:
Yes

EVAR Additional Procedure

Data Abstraction Instructions:

Indicate any additional procedures performed related to EVAR during the follow-up timeframe, and their indication. Check all that apply. Also enter the date the procedure was performed.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
    - Endoleak
    - Sac Growth
    - Migration
    - Limb Occlusion
    - Symptoms-Rupture
        - Enter date of occurrence post discharge
- No

Required:
Yes

EVAR Conversion to Open

Data Abstraction Instructions:

Indicate if the EVAR procedure was converted to and open AAA procedure during the follow-up timeframe and enter the indication for the OAAA. Choose all that apply. Also enter the date the EVAR procedure was converted to an OAAA.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
    - Endoleak
    - Sac Growth
    - Migration
    - Infection
    - Symptoms-Rupture
        - Enter date of occurrence post discharge
- No

Required:
Yes

Open Bypass

Data Abstraction Instructions:

Indicate if the patient had the applicable procedures during follow-up after an open bypass procedure.

Selections:

- Yes
- No

Required:

Yes

Open Bypass ABIs

Data Abstraction Instructions:

Indicate if the patient has had ABIs measured during the follow-up timeframe and if so, enter the value (include both right and left ABIs, regardless of the operative side).

ABI Compressible = Enter Yes for ABI Compressible when the value is <1.4.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - **Open Bypass ABIs Right ABI Value**
    - Yes
      - Open Bypass Right ABI Compressible
      - Yes
        - Enter value for Open Bypass Right ABI Compressible
      - No
    - No
  - **Open Bypass ABIs Left ABI Value**
    - Yes
      - Open Bypass Left ABI Compressible
      - Yes
        - Enter value
      - No
  - No
- No

Required:
Yes
Minimum:
0
Maximum:
1.39

Open Bypass TBIs

Data Abstraction Instructions:

Indicate if the patient had TBIs measured during the follow-up timeframe, and if so, enter the value.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Enter Value for TBIs Right
  - Enter Value for TBIs Left
- No

Required:
Yes
Minimum:
0
Maximum:
1.39

Open Bypass Toe Pressures

Data Abstraction Instructions:

Indicate if the patient had Toe Pressures measured during the follow-up timeframe, and if so, enter the value.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Enter value for Toe Pressures Right mm/Hg
  - Enter value for Toe Pressures Left mm/Hg
- No

Required:

Yes
Suffix:
mmHg

Open Bypass Revision

Data Abstraction Instructions:

Indicate if the patient was readmitted to the hospital for a graft revision and indicate if the graft revision was performed surgical and/or percutaneously. Select all that apply.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Surgical
  - Percutaneous
  - Enter date of occurrence post discharge
- No

Required:
Yes

Open Bypass Patent

Data Abstraction Instructions:

Indicate if the patient's graft is patent at follow up.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
- No

Required:
Yes

Open Bypass Pulses

Data Abstraction Instructions:

Indicate the method of determining graft patency at follow up. Select all that apply.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Palpable graft pulse
  - Palpable distal pulse
  - ABI increase >0.15
  - Duplex
  - Doppler
- No

Required:
Yes

Open Thrombectomy

Data Abstraction Instructions:

Indicate if the patient had the applicable procedures during follow-up after an open thrombectomy procedure.

Selections:

- Yes
- No

Required:
Yes

Open Thrombectomy Repeat Procedure

Data Abstraction Instructions:

Indicate if the patient had an intervention on the same vessel as the original open thrombectomy procedure during the follow-up. Enter the date of the intervention.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Surgical
  - Percutaneous
  - Enter date of the repeat procedure
- No

Required:
Yes

Open Thrombectomy Additional Vascular Procedure

Data Abstraction Instructions:

Indicate if the patient returned during follow-up for an additional vascular procedure on a different vessel than the original open thrombectomy procedure. Do not select this option for a repeat procedure on the same vessel.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Surgical
  - Percutaneous
  - Enter date of occurrence post discharge
- No

Required:
Yes

Open Thrombectomy Vessel Patent

Data Abstraction Instructions:

Indicate if the target thrombectomy vessel is patent at follow up.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
- No

Required:
Yes

Prosthetic Graft

Data Abstraction Instructions:

Indicate the type of prosthetic graft used. Select all that apply. If both a vein and a prosthetic graft were used, enter Yes for both Prosthetic Graft and Vein Graft.

Selections:

- Yes
  - Dacron
  - PTFE
  - Composite with vein
- No

Supporting Definitions:

Dacron = a woven or knitted graft.

PTFE = a graft made out of Teflon or polyester. May also be called a Gore-Tex graft.

Composite with vein = the patient's vein and a prosthetic graft were used.

Required:
Yes

Protamine DURING procedure

Data Abstraction Instructions:

Record if protamine was given during the procedure (protamine was given from the time the patient enters the room until the time the patient leaves the room).

Selections:

- Given
- Not Given

Required:
Yes

Proximal Clamp Position

Data Abstraction Instructions:

Indicate the position of the proximal clamp during the repair.

Selections:

- Infrarenal
- Above 1 renal
- Above both renal
- Supraceliac
- Clamp not utilized

Required:
Yes

Race

Data Abstraction Instructions:

Select the appropriate race of the patient.

Selections:

- White (Caucasian)
- Black or African American
- Asian
- American Indian or Alaskan Native
- Native Hawaiian or Pacific Islander
- Other

Supporting Definitions:

White (Caucasian) = Having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Black or African American = Having origins of the black racial groups of Africa. Terms such as "Black or African American" may be used.

Asian = Having origins of the origin peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example: Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

American Indian or Alaskan Native = Having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.

Native Hawaiian or Pacific Islander = Having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Other = A race that is not in this list. Or race is documented as unknown.

Required:
Yes

Rapidly Increasing Aneurysm Diameter

Data Abstraction Instructions:

Indicate if there has been an increase in aneurysm diameter by 0.5 cm within 6 months to one year as determined by CTA.

Selections:

- Yes
- No

Supporting Definitions:

There has been rapid growth of the aneurysm necessitating surgery.

Required:
Yes
Suffix:
cm

Re-explore After Closure (CEA)

Data Abstraction Instructions:

Indicate if a defect was detected, after closure, during the same operation, which resulted in reopening the incision for exploration.

Selections:

- Yes
- No

Required:
Yes

Readmission to Hospital

Data Abstraction Instructions:

Indicate if the patient was readmitted to the hospital during follow-up for a procedure related issue. If yes, indicate the reason. Select all that apply.

If the patient were readmitted for an amputation on the side of the procedure, enter the outcomes of readmission and amputation. If the patient states they were readmitted to the hospital during a phone call, you will need to verify the information from the patient's medical record or physician.

Selections:

- Yes
  - Lymph leak (seroma)
  - SSI
  - Dehiscence
  - Graft infection
  - Anticoagulation complication
  - Thrombectomy/lysis
  - Other
    - Enter date of occurrence post discharge
- No

Supporting Definitions:

Lymph leak (seroma) = The patient was readmitted to remove or drain a lymphatic leak (seroma).

SSI = The patient was readmitted to treat a surgical site infection.

Dehiscence = The patient was readmitted to treat a partial or total separation of previously approximated wound edges.

Graft infection = The patient was readmitted to explant or treat an infected graft.

Anticoagulation complication = The patient was readmitted to treat a hematoma or stop bleeding.

Thrombectomy/lysis = The patient was readmitted to treat a thrombus surgically or medically.

Other = The patient was readmitted to the hospital for a procedure-related issue not on this list.

Required:
Yes

Reasons LOS >2 days after CEA

Data Abstraction Instructions:

Enter the reason the patient was in the hospital >2 days after the elective CEA procedure. Select all that apply. This field will display when the LOS is greater than 2 days after the procedure date for an elective CEA.

Selections:

- Yes
  - Hypertension
  - Lack of transportation
  - No caregiver/support at home
  - COPD
  - Urinary retention
  - Placement to another facility
  - Worsening of stroke after CEA
  - CEA & another surgical procedure, same DC
  - Other
- No

Supporting Definitions:

Hypertension = Indicate if the patient experienced hypertension for >24 hours post procedure requiring parenteral drug treatment. Hypertension is a systolic blood pressure (SBP) > 160 mmHg and requires IV antihypertensives, ACE inhibitors, calcium channel blockers, beta-blockers, or diuretics to maintain a SBP <160 mmHg.

Lack of transportation = The hospital delayed the patient's discharge while waiting for transport to home or another facility.

No caregiver/support at home = The patient lives alone and cannot take care of themselves after surgery or does not have another person to care for them at home. If the patient's discharge is delayed because there is a dispute among the family regarding guardianship of the patient, enter No caregiver/support at home.

COPD = The patient developed an exacerbation of COPD after the procedure.

Urinary retention = The patient cannot void (urinate), requiring catheterization within 24 hours postoperatively. Or the patient cannot void (urinate) 6 hours after removing a Foley catheter inserted preoperatively.

Placement to another facility = The hospital delayed the patient's discharge while waiting for placement to another facility, such as an ECF, SNF, assisted living center, or rehabilitation institution. Please include an admission/transfer to an inpatient rehab unit.

Worsening of stroke after CEA = The patient had a stroke before the CEA and the patient's stroke symptoms are worse after the CEA.

CEA & another surgical procedure same DC = A CEA and another surgical procedure were performed during the same discharge (i.e., hemodialysis graft, CABG that was performed separately from the CEA).

Other = The reason the patient was in the hospital > 2 days is not on the list.

Required:
Yes

Reasons LOS >2 days after EVAR

Data Abstraction Instructions:

Enter the reason the patient was in the hospital >2 days after the elective EVAR procedure. Select all that apply. This field will display when the LOS is greater than 2 days after the procedure date for an elective EVAR.

Selections:

- Hypertension
- Lack of transportation
- No caregiver/support at home
- COPD
- Urinary retention
- Placement to another facility
- EVAR & another surgical procedure, same DC
- Persistent hypotension
- FEVAR
- Other

Supporting Definitions:

Hypertension = Indicate if the patient experienced hypertension for >24 hours post procedure requiring parenteral drug treatment. Hypertension is a systolic blood pressure (SBP) > 160 mmHg and requires IV antihypertensives, ACE inhibitors, calcium channel blockers, beta-blockers, or diuretics to maintain a SBP <160 mmHg.

Lack of transportation = The hospital delayed the patient's discharge while waiting for transport to home or another facility.

No caregiver/support at home = The patient lives alone and cannot take care of themselves after surgery or does not have another person to care for them at home. If the patient's discharge is delayed because there is a dispute among the family regarding guardianship of the patient, enter No caregiver/support at home.

COPD = The patient developed an exacerbation of COPD after the procedure through discharge.

Urinary retention = The patient cannot void (urinate), requiring catheterization within 24 hours postoperatively. Or the patient cannot void (urinate) 6 hours after removing a Foley catheter inserted preoperatively.

Placement to another facility = The hospital delayed the patient's discharge while waiting for placement to another facility, such as an ECF, SNF, assisted living center, or rehabilitation institution. Please include an admission/transfer to an inpatient rehab unit.

EVAR & another surgical procedure same DC = An EVAR and another surgical procedure were performed during the same discharge (i.e., hemodialysis graft, open bypass).

Persistent hypotension = Indicate if the patient experienced persistent hypotension for >24 hours post-procedure requiring parenteral drug treatment. Hypotension is a systolic blood pressure (SBP) <90 mm Hg or the need for IV vasopressors and/or atropine to maintain a SBP >90 mmHg.

FEVAR = A fenestrated endograft was implanted during the EVAR procedure.

Other = The reason the patient was in the hospital > 2 days is not on the list.

Required:
Yes

Redo Procedure

Data Abstraction Instructions:

Indicate if the procedure being performed is a redo of a previous bypass.

Selections:

- Yes
- No

Supporting Definitions:

The intent is to capture bypass procedures that are performed to revascularize the same arterial bed as a previous bypass. It does not necessarily require the same origin and insertion.

Required:
Yes

Renal Failure Currently Requiring Dialysis

Data Abstraction Instructions:

Indicate if the patient is currently undergoing either hemodialysis or peritoneal dialysis on an ongoing basis as a result of renal failure. For patients currently undergoing CVVH (Continuous Veno – Venous Hemofiltration) as a result of renal failure (and not as a treatment to remove fluid for heart failure) then select "Yes".

Selections:

- Yes
- No

Required:
Yes

Renal Failure/Dialysis (30-Day Follow-up Only)

Data Abstraction Instructions:

Indicate if the patient was readmitted during the 30-day follow-up timeframe for renal failure or new dialysis.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Enter date of occurrence post discharge
- No
- Not Documented

Required:
Yes

Renal Status

Data Abstraction Instructions:

Indicate renal status and interventions, check all that apply.
If a stent is implanted in the renal artery during the procedure, enter the renal stent in Locations for a regular EVAR. Do no enter the rental stent in Locations for a fenestrated EVAR (FEVAR).

Selections:

- Yes
  - Patent, No Intervention
  - Chronically Occluded
  - Purposely Occluded
  - De-Branch/Bypass
  - Stent
  - Chimney
  - Fenestrated/scallop
  - Side Branch From Graft
  - Accessory Renal Artery Covered
- No
- Not documented

Supporting Definitions:

- **Patent, No Intervention** = No intervention required to maintain renal artery patency
- **Chronically Occluded** = Renal artery was chronically occluded prior to procedure
- **Purposely Occluded** = Renal artery was intentionally occluded during the procedure
- **De-Branch/Bypass** = Additional intra-operative surgery to bypass renal or visceral vessels
- **Stent** = Renal stent placed to maintain renal artery patency
- **Chimney** = Placement of a bare metal/covered stent that maintains renal artery patency where the graft occludes the orifice of the renal(s)
- **Fenestrated/scallop** = Hole or orifice in the graft to maintain renal or visceral vessel patency
- **Side Branch From Graft** = Custom made grafts with an additional smaller graft off the main body to maintain renal or visceral vessel patency
- **Accessory renal covered** = Multiple arteries to the kidney are present and one (or more) is covered by the graft

Additional covered stents can be (and usually are) added to the fenestrated grafts at the scalloped and side branches to maintain renal patency. The side arm branches may or may not reach beyond the aneurysm by themselves and a covered graft may bridge between the main body and renal artery.

Required:
Yes

Renal Transplant

Data Abstraction Instructions:

Indicate if the patient had a history of a renal transplant. Include transplants that have failed.

Selections:

- Yes
- No

Required:
Yes

Renal/Visceral Ischemic Time

Data Abstraction Instructions:

Indicate time of renal/visceral clamp time. Include any aortic reclamp time for hypotension.

The Renal/Visceral Ischemic Time field will not display when Infrarenal or Clamp Not Utilized is entered for Proximal Clamp Position.

Selections:

- Documented
  - Enter value in minutes
- Not documented
- Clamp not utilized

Supporting Definitions:

The Renal/Visceral Ischemic Time, is the amount of time that either 1 or both renals were without blood flow. The surgeon may document this. The time may be recorded on the anesthesia record. Or you can subtract the time the clamp was placed above 1 or both renals from the time the clamp was taken off.

Required:
Yes
Suffix:
minutes

Reperfusion Symptoms

Data Abstraction Instructions:

Indicate if the patient had an incidence of hyperperfusion syndrome. Clinical diagnosis should be made by knowledgeable provider, familiar with this syndrome.

Selections:

- Yes
  - Seizure
  - Hemorrhage
  - Non specific
- No

Supporting Definitions:

Seizures are associated with headache, or hemorrhage on CT/MRI.

Required:
Yes

Respiratory

Data Abstraction Instructions:

Indicate if the patient had any respiratory issues post procedure.

Selections:

- Ventilator (continued after leaving OR)
- Reintubation (required after initially extubated)
- None

Supporting Definitions:

If a patient was not intubated for the procedure and requires intubation post procedure, it is not captured as an outcome here. Do not include elective reintubation for additional procedures.

Required:
Yes

Rest Pain

Data Abstraction Instructions:

Indicate if the patient has severe pain in the foot and toes made worse by elevation of the leg and relieved by sitting or standing.

Selections:

- Yes
- No

Supporting Definitions:

Analgesics do not readily control rest pain.

Required:
Yes

Restenosis in Target Vessel After Prior CAS

Data Abstraction Instructions:

Indicate if the current procedure was performed for restenosis in the target carotid artery, which was previously treated with angioplasty and/or stent.

Selections:

- Yes
- No

Supporting Definitions:

Carotid artery restenosis is defined as greater than 50% diameter stenosis at or adjacent to the site previously treated with balloon angioplasty or stent.

Required:
Yes

Restenosis in Target Vessel After Prior CEA

Data Abstraction Instructions:

Indicate if the current procedure was performed for restenosis in the target carotid artery, which was previously treated with carotid endarterectomy.

Selections:

- Yes
- No

Supporting Definitions:

Restenosis is defined as the reoccurrence of stenosis within or adjacent to a prior endarterectomy site, evidenced by greater than 50% diameter stenosis.

Required:
Yes

Return to OR (CEA)

Data Abstraction Instructions:

Indicate if the patient had to return to the Operating Room, post procedure, for an event related to the Carotid Endarterectomy. If yes, indicate reason(s).

Selections:

- Yes
  - Bleeding
  - Neurologic event
  - Technical defect requiring revision
- No

Supporting Definitions:

An example of Bleeding is when the patient is taken back to the OR for treatment of a neck hematoma.

Examples of Technical Defect Requiring Revision are:

- To fix a problem with the arteriotomy patch
- To add an arteriotomy patch
- The ends of the plaque lesion were not secured and are causing an obstruction

Required:

Yes

Return to Operating Room (VS)

Data Abstraction Instructions:

Indicate if the patient had to return to the Operating Room post procedure to fix the original surgery issues. If a patient returns to the OR for an evacuation of a hematoma post procedure and the hematoma is not in the treated vessel (for example, a hematoma at the incision site) enter Bleeding as the reason for the return to the OR. Even though there may not be any active bleeding, bleeding caused the hematoma.

Do not enter return to OR for washouts of the wound, wound vac placement or wound vac changes.

Selections:

- Yes
  - Enter date of first occurrence post procedure
  - **Select reason for Return to OR**
  - Bleeding
  - Renal Ischemia
  - Endoleak
  - Infection
  - Graft Revision
  - Other
- No

Required:
Yes

Rivaroxaban (Xarelto)

Data Abstraction Instructions:

Record if rivaroxaban (Xarelto) was Given, Not Given, and/or Contraindicated at admission and/or discharge.
Home Medications Prior to Admission?

- Enter Given if the patient was taking rivaroxaban before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking rivaroxaban before admission.

Medications at Discharge?

- Enter Given if rivaroxaban was documented as a new medication or continued at discharge.
- Enter Not Given if rivaroxaban was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

Selections:

- Given
- Not Given
- Contraindicated for Rivaroxaban (Xarelto)
    - Yes
    - No

Required:
Yes

Rivaroxaban (Xarelto) dose (mg)

Data Abstraction Instructions:

Enter the total daily dosage documented for rivaroxaban (Xarelto) in milligrams (mg). For example, if rivaroxaban 20 mg daily is documented, enter 20 mg.
This field will accept decimals.

Selections:

Enter dose in text box (mg).

Required:
Yes
Minimum:
1
Maximum:
300

Ruptured AAA

Data Abstraction Instructions:

Indicate if the aneurysm was ruptured at the time of the procedure. This includes free ruptures with extravasation of blood/contrast on pre-imaging or in the physician dictation.

Selections:

- Yes
- No

Supporting Definitions:

Contained ruptures do not qualify.

Required:
Yes

Lowest Pre-Intubation Blood Pressure

Data Abstraction Instructions:

Indicate the lowest pre-intubation systolic blood pressure after arrival at the hospital.

Selections:

- Yes
    - Enter value in mmHg
- Not documented

Required:
Yes
Suffix:
mmHg
Minimum:
0
Maximum:
200

Mental Status

Data Abstraction Instructions:

Indicate the patient's mental status on arrival to the operating room. If the patient was intubated upon arrival to the OR, enter Unconscious.

Selections:

- Yes
  - Normal (alert and oriented)
  - Disoriented to person, place, or time
  - Unconscious
- Not documented

Required:
Yes

Cardiac Arrest

Data Abstraction Instructions:

Indicate if the patient was in cardiac arrest on arrival to the operating room.

Selections:

- Yes
- No

Required:
Yes

Timeframe: Symptoms to Incision

Data Abstraction Instructions:

Record the time from symptom onset until surgical incision. The time of symptom onset may be documented in the EMS records, ED records, or operative notes. If the time of symptom onset is not exact, enter as much information that is documented. For example, if the symptom onset is documented as "two days ago," enter 48 hours. If the time of symptom onset is not documented in the hospital documents, calculate the time of symptom onset from the time EMS made contact with the patient.

Selections:

- Yes
  - Enter value in hours
- Not documented

Required:
Yes
Suffix:
hours
Minimum:
0
Maximum:
72

Timeframe: Admission to Incision

Data Abstraction Instructions:

Record the time from when the patient arrived to your hospital to the surgical incision in hours. If the patient was admitted through the ED, use the date and time the patient arrived to the ED.

Selections:

- Yes
  - Enter value in hours
- Not documented

Required:
Yes
Suffix:
hours
Minimum:
0
Maximum:
24

Saline Infusion

Data Abstraction Instructions:

Record if a Saline infusion was Given or Not Given during a procedure. If a Saline infusion was administered, enter the timeframe (pre, during, post) and length of the infusion.

Saline rate for inclusion is >= 50cc/hr. Document an infusion of 0.45% Normal Saline under Other Hydration.

Medications During Procedure

- Enter Given a Saline infusion was given before, during or after the procedure
  - Pre = a Saline infusion was given from admission or previous procedure until the current procedure.
  - During = a Saline infusion was given from the time the patient enters the room until the time the patient leaves the room
  - Post = a Saline infusion given after the patient has left the room until discharge or next procedure.
- Enter Not Given if a Saline infusion was not given.

Selections:

- Given
  - Infusion < 1 hour
    - Pre
    - During
    - Post
  - Infusion 1 - 3 hours
    - Pre
    - During
    - Post
  - Infusion ≥3 - 6 hours
    - Pre
    - During
    - Post
  - Infusion > 6 hours
    - Pre
    - During
    - Post
- Not Given

Required:
Yes

Shunt Used (CEA)

Data Abstraction Instructions:

Indicate if a shunt was used at the surgical site to maintain blood flow during the carotid endarterectomy (CEA) procedure.

Selections:

- Yes
- No

Required:
Yes

Significant Valve Disease

Data Abstraction Instructions:

Indicate whether the patient has had a previous surgical replacement and/or repair of a cardiac valve by any approach prior to arrival at this facility. This includes percutaneous valve procedures and valvuloplasty. Also indicate if patient has mitral valve regurgitation of at least grade 2 or greater, mitral valve area < 1.5 cm^2, aortic valve regurgitation of at least grade 2 or greater, or aortic valve area <= 1.0 cm^2.

This may include physician documentation of moderate or severe valve disease.

Selections:

- Yes
- No

Required:
Yes

Size of Iliac Aneurysm

Data Abstraction Instructions:

Indicate if the primary reason for AAA repair is the size of an iliac aneurysm.

Selections:

- Yes
- No

Required:
Yes

Skin Preparation

Data Abstraction Instructions:

Enter the skin prep used to prep the skin before the incision was made. Select all that apply.

Selections:

- Chlorhexidine
- Alcohol
- Iodine
- Chlorhexidine + Iodine
- Chlorhexidine + Alcohol
- Iodine + Alcohol

Required:
Yes

Slow Flow

Data Abstraction Instructions:

Indicate if slow flow occurred during the procedure. Select all that apply.

Selections:

- Yes
  - After stent deployment
  - After post dilation
  - Aspiration was performed
  - Aspirate had visible debris
  - Patient had neurological changes during slow flow

- No

Supporting Definitions:

Slow Flow is defined as a significant reduction in antegrade flow in the ICA proximal to the filter device thought to be caused by debris in the filter.

Required:
Yes

Smoking

Data Abstraction Instructions:

Select if patient is smoking cigars, cigarettes (including e-cigarettes or vaping), chew (tobacco), pipe (tobacco), or marijuana at the time of follow-up. Smoking can be obtained through the medical record or a phone call to the patient.

Selections:

- Yes
- No
- Not documented

Supporting Definitions:

Yes = the patient is smoking at the time of follow-up.

No = the patient is not smoking at the time of follow-up.

Not documented = the patient's smoking status at the time of follow-up is not documented.

Required:
Yes

Smoking Cessation Counseling

Data Abstraction Instructions:

Indicate if the patient received physician delivered advice, a prescription for nicotine replacement, and/or was referred to a smoking cessation service. Select all that apply.

Smoking Cessation Counseling will display when Yes is entered for Current Smoker and will not display when Death is entered for Discharge Status.

Selections:

- Yes
  - Physician delivered advice
    - Patient refused
  - Pharmacotherapy
    - Patient refused
  - Referral to smoking counseling services
    - Patient refused
    - Local counseling service
    - Michigan Quitline
    - Other counseling service
- No

Supporting Definitions:

Yes = Enter Yes for Smoking Cessation at Discharge if Yes was entered for Current Smoker under Patient History / Comorbidity, and at least one of the 3 steps were implemented during the hospitalization or at discharge.

Physician delivered advice = A surgeon, advanced practice personnel (PA, NP), or resident has a conversation with the patient and recommends that the patient stops smoking. A recommendation to stop smoking offered by a nurse, respiratory therapist, or student does not count as physician delivered advice.

If the physician recommended smoking cessation, and the patient refused, enter Physician Delivered Advice AND Patient refused. There must be adequate documentation to support this claim.

Pharmacotherapy = The provider ordered or continued Pharmacotherapy at discharge. Pharmacotherapy may include a nicotine patch, gum, lozenge, or other pharmacologic assistance (Varenicline, Bupropion, etc.).

If a patient refuses Pharmacotherapy, and there is provider documentation that Pharmacotherapy was offered and documentation that the patient refused, enter Pharmacotherapy AND Patient refused.

Referral to smoking counseling services = The provider documents during the hospital admission or at discharge that they referred the patient to a smoking counseling service. Smoking counseling services may include a hospital specialist, a smoking cessation class, the Michigan Tobacco Quitline, or a national smoking cessation service. The provider must recommend a smoking counseling service to the patient. The standard message to stop smoking on the AVS or discharge summary template is not sufficient.

If a physician, mid-level provider, or resident does an assessment and then puts in a referral to a respiratory therapist or a dedicated smoking cessation nurse to provide smoking cessation education, you can choose Referral to smoking counseling services.

If there is documentation that the provider recommended smoking counseling services and the patient refused, enter Referral to smoking counseling services, AND Patient refused. There must be adequate documentation to support this claim.

Patient Refused = The provider documented that the patient refused the corresponding intervention.

Local counseling service = The provider refers the patient to the hospital's smoking counseling service or a community-based smoking counseling service. Enter Referral to smoking counseling services AND Local counseling service.

Michigan Quitline = The provider refers the patient to the Michigan Tobacco Quitline. Enter Referral to smoking counseling services AND Referral to Michigan Quitline.

Other counseling service = The provider refers the patient to a Federal or National smoking cessation service. Enter Referral to smoking counseling services AND Other counseling service.

No = Enter No for Smoking Cessation at Discharge if No was entered for Ever Smoked or Current Smoker under Patient History / Comorbidity. Enter No if the patient is a current smoker; however, none of the three steps were implemented during the hospitalization or at discharge.

Required:
Yes

Sodium Bicarbonate Infusion

Data Abstraction Instructions:

Record if a Sodium Bicarbonate infusion was Given or Not Given before, during, and/or after a procedure. If an sodium bicarbonate infusion was administered, enter the timeframe (pre, during, post) and length of the infusion. Go to page 3 of the VS Medications Dictionary for definitions to data fields.

Do Not Include Sodium Bicarbonate administered in IV bolus doses, only IV infusion.

Medications During Procedure

- Enter Given if a Sodium Bicarbonate infusion was given before, during or after the procedure
  - Pre = a Sodium Bicarbonate infusion from admission or previous procedure until the current procedure.
  - During = a Sodium Bicarbonate infusion was given from the time the patient enters the room until the time the patient leaves the room
  - Post = a Sodium Bicarbonate infusion was given after the patient has left the room until discharge or next procedure.
- Enter Not Given if a Sodium Bicarbonate infusion was not given.

Selections:

- Given
  - If given, choose all that apply.
- Not Given

Required:
Yes

Spontaneous Carotid Artery Dissection

Data Abstraction Instructions:

Indicate if the patient had a spontaneous carotid artery dissection prior to the current procedure.

Selections:

- Yes
- No

Required:
Yes

Statin (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking a statin at the time of the follow up and if there is a contraindication to statins.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No
    - Contraindicated for Statin:
        - Yes
        - No

Supporting Definitions:

Some examples of statins are

Generic Name	Brand Name
Atorvastatin	Lipitor
Atorvastatin + Amlodipine*	Caduet
Cerivastatin	Baycol
Fluvastatin	Lescol
Lovastatin	Mevacor
Lovastatin + Niacin*	Advicor
Pitavastatin	Livalo
Pravastatin	Pravachol
Rosuvastatin	Crestor
Simvastatin	Zocor
Simvastatin + Ezetimibe *	Vytorin
Simvastatin + Niacin *	Simcor

*Denotes a combination medication

Source:
1-1-25: Not documented was removed.
Required:
Yes

Statins

Data Abstraction Instructions:

Record if a Statin was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking a statin before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking a statin before admission.

Medications at Discharge?

- Enter Given if a statin was documented as a new medication or continued at discharge.
- Enter Not Given if a statin was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Caduet is a combination of amlodipine and atorvastatin. Enter Given or Not Given for both Calcium Channel Blockers and Statins.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given
- Contraindicated
  - Yes
  - No

Supporting Definitions:

Generic Name	Brand Name
Atorvastatin	Lipitor
Atorvastatin + Amlodipine*	Caduet
Cerivastatin	Baycol
Fluvastatin	Lescol
Lovastatin	Mevacor
Lovastatin + Niacin*	Advicor
Pitavastatin	Livalo
Pravastatin	Pravachol
Rosuvastatin	Crestor
Simvastatin	Zocor
Simvastatin + Ezetimibe *	Vytorin
Simvastatin + Niacin *	Simcor

*** Denotes a combination medication**

Required:
Yes

Status of Procedure

Data Abstraction Instructions:

Indicate status of the procedure using the following categories.

Selections:

- Elective
- Urgent
- Emergent

Supporting Definitions:

Elective = the procedure could be deferred without increased risk of compromised vascular outcome. This should include the planned or scheduled procedures.

Urgent = required operation within 72 hours, but > 12 hours of **admission.**

Emergent = required operation within 12 hours of **admission** to prevent limb loss.

Required:
Yes

Stay in ICU

Data Abstraction Instructions:

Indicate the length of stay in the ICU post procedure. Include any days in the ICU for any reason.

Selections:

- Yes
  - Enter value in days
- No

Supporting Definitions:

Indicate value in days, whole numbers. Less than or equal to 24 hours equals one day, greater than 24 hours up to 48 hours equals two days, etc.

Required:
Yes
Suffix:
days
Minimum:
1
Maximum:
100

Stent(s) Implanted (CAS)

Data Abstraction Instructions:

Indicate if at least one stent was implanted.

Selections:

- Yes
- No

Required:
Yes

Predilation Prior to Attempted Stent Implant

Data Abstraction Instructions:
Indicate whether balloon dilation was performed on the target lesion after placement of the embolic protection device, but before delivery of the stent. Do not include predilation prior to deployment of the embolic protection device.
Selections:

- Yes
- No

Required:
Yes

Stent Tapered

Data Abstraction Instructions:

Indicate if the stent device was tapered.

Selections:

- Yes
- No

Supporting Definitions:

An example of a tapered stent would be a 8-10x30mm stent.

Required:
Yes

Stent Diameter

Data Abstraction Instructions:

Indicate the diameter of the stent. If a tapered stent was used, indicate the smallest diameter of the tapered stent.

Selections:

- Yes
  - Enter value in mm
- No

Required:
Yes
Suffix:
mm
Minimum:
5
Maximum:
20

Stent Length

Data Abstraction Instructions:

Indicate the length of the stent. If more than one stent is implanted, enter the total length of all stents.

Selections:

- Yes
  - Enter value in mm
- No

Required:
Yes
Suffix:
mm

Minimum:
15
Maximum:
100

Malposition

Data Abstraction Instructions:
Indicate if the stent was deployed in a location or position other than that for which it was intended.
Selections:

- Yes
- No

Required:
Yes

Stent Model Name

Data Abstraction Instructions:

Indicate the brand or model name of the stent.

Selections:

Select the brand name or model name from the list.

Required:
Yes

Final % Stenosis (CAS)

Data Abstraction Instructions:

Indicate the percent stenosis post procedure.

Selections:

- Documented
  - Enter value %
- Not documented

Required:
Yes
Suffix:
%
Minimum:
0
Maximum:
100

Stent/Graft Thrombosis (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if a blood clot formed within the stent/graft during the procedure that limits distal blood flow. If yes, indicate if it was treated successfully.

Selections:

- Yes
  - Successful
  - Unsuccessful
- No

Supporting Definitions:

Successful = The blood clot was successfully treated, and blood flow was restored distal to the stent/graft.

Unsuccessful = The blood clot was unsuccessfully treated, and blood flow was not restored distal to the stent/graft.

Required:
Yes

Stent/Graft Thrombosis (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if a blood clot formed within the stent/graft that limits distal blood flow. When entering stent/graft thrombosis as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the stent/graft thrombosis treated.

Selections:

- Yes
  - Enter date of first occurrence post procedure
  - Successful
  - Unsuccessful
- No

Supporting Definitions:

Successful = The blood clot was successfully treated, and blood flow was restored distal to the stent/graft.

Unsuccessful = The blood clot was unsuccessfully treated, and blood flow was not restored distal to the stent/graft.

Required:
Yes

Study Number

Data Abstraction Instructions:

Enter Study Number assigned by your facility if your patient is enrolled in a research study. This data field is optional.

Selections:

- Enter Study number

Required:
No
Maximum Length:
25

Surgical Procedure Terminated (CEA)

Data Abstraction Instructions:

Indicate if the carotid endarterectomy procedure was terminated.

Selections:

- Yes
- No

Required:
Yes

Reasons for Surgical Termination

Data Abstraction Instructions:

Indicate the reasons the carotid endarterectomy procedure was terminated. Choose all that apply:

Selections:

- Hypotension
- Hypertension
- Cardiac instability
- Nerve compromise
- Difficulty with anesthesia
- Inability to implement shunting
- Excessive scar tissue
- Difficult dissection
- Excessive bleeding
- Carotid artery thrombosis
- ICA string sign/atresia
- Inability to access lesion due to anatomical reasons
- Other

Required:
Yes

Syncope

Data Abstraction Instructions:

Indicate if the patient experienced syncope as an indication for the procedure. If you enter Yes for Syncope, then enter No for Target Lesion Symptomatic within Past 6 Months.

Selections:

- Yes
- No

Required:
Yes

TBI

Data Abstraction Instructions:

Indicate if TBIs were performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months. Enter all available data for TBIs that are valid for the present procedure (include both right and left, regardless of the operative side).

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Right Pre Procedure TBI
    - Yes
      - Enter value
    - No
  - Left Pre Procedure TBI
    - Yes
      - Enter value
    - No
- No

Required:
Yes

TCAR

Data Abstraction Instructions:

Indicate if the procedure is a Trans Carotid Artery Revascularization (TCAR).

Selections:

- Yes
- No

Supporting Definitions:

If a carotid stenting procedure is not documented as a TCAR, there are three things to look for in the procedure note to determine if the procedure is a TCAR.

1. The carotid artery was accessed, and sheath inserted.
2. The femoral vein was accessed, and sheath inserted. (Usually, the contralateral femoral vein will be used, however, the ipsilateral femoral vein may be used due to issues with the patient's anatomy).
3. Flow reversal is established for X minutes.

Required:
Yes

TIA/Stroke (Follow-up)

Data Abstraction Instructions:

Indicate if the patient was readmitted to the hospital for a TIA or stroke during follow-up.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Enter date of occurrence post discharge
- No
- Not Documented

Supporting Definitions:

- Transient Ischemic Attacks (TIA) are characterized by the following: A focal neurologic abnormality of sudden onset and brief duration (i.e., lasting <24 hours) that reflects a dysfunction (presumed to be ischemic in origin) in the cerebral distribution of the affected artery. They are evidenced by neurological symptoms involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.
- Ischemic Strokes are caused by a "blockage of a blood vessel" resulting in residual symptoms lasting greater than 24 hours and leading to impaired functional outcomes. They are evidenced by loss of neurological function involving right or left retinal, right or left hemispheric, vertebrobasilar, and/or unknown territories.
- Intracranial Hemorrhage or Hemorrhagic Strokes are caused by "bursting or leaking of blood vessels" in the brain and may lead to impaired functional outcomes.

Symptoms of transient ischemic attack or ischemic stroke can include the following:

- Transient monocular blindness (e.g., amaurosis fugax, defined as a transient episode of blindness or partial blindness, affecting one eye only
- language impairment
- speech impairment or dysphasia
- hemi-neglect
- vertigo (spinning sensation)
- cranial nerve abnormalities (an example is dysconjugate gaze, in which eyes are no longer yoked together)
- "crossed" neurological symptoms, indicated by focal neurological deficits involving both sides of the body (example: sensory loss on the right and motor weakness on the left)
- motor weakness
- sensory loss
- slurred speech ("dysarthria")
- visual field cut
- clumsiness or incoordination

Required:
Yes

TIA/Stroke (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if the patient had a TIA or Stroke while the patient is in the procedure area.

Selections:

- Yes
- No

Supporting Definitions:

A TIA is defined as an abrupt loss of neurological function with complete return of function within 24 hours. A stroke is defined as a loss of neurological function caused by an ischemic event that is severe enough to leave a persistent deficit for greater than 24 hours.

Required:
Yes

TIA/Stroke (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if there was abrupt loss of neurological function with complete return of function within 24 hours or loss of neurological function caused by an ischemic event that is severe enough to leave a persistent deficit for greater than 24 hours.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Required:
Yes

Target Carotid Vessel

Data Abstraction Instructions:
Indicate whether the target vessel is the right or left carotid artery for the current procedure.
Selections:

- Right
- Left

Required:
Yes

Target Lesion Location (CAS)

Data Abstraction Instructions:

Indicate the target lesion location for this procedure.

Selections:

- Isolated CCA
- Isolated ICA
- Bifurcation

Supporting Definitions:

Isolated CCA = Target lesion location is a lesion isolated to the common carotid artery and does not extend to or involve the carotid bifurcation.

Isolated ICA = Target lesion location is a lesion isolated to the internal carotid artery and does not extend to or involve the carotid bifurcation.

Bifurcation = Target lesion location is any lesion that involves the carotid bifurcation. For example, a high grade stenosis in the ICA or CCA adjacent to the bifurcation wherein the plaque extends to involve the bifurcation is considered a bifurcation lesion.

Required:
Yes

Target Lesion Symptomatic w/in Past 6 Months

Data Abstraction Instructions:

Indicate if the patient had neurologic symptoms in the past six months related to the target lesion. Conditions qualifying patients as symptomatic:

- Transient Ischemic Attack (TIA): distinct focal neurologic dysfunction persisting less than 24 hours;
- Non-disabling stroke: Modified Rankin Scale < 3 with symptoms for 24 hours or more;
- Transient monocular blindness: amaurosis fugax

If you enter Yes for Target Lesion Symptomatic w/in Past 6 months, enter No for Syncope.

Selections:

- Yes
- No

Required:
Yes

Thiazides

Data Abstraction Instructions:

Thiazides are a category of diuretics. See the medication list below for examples of thiazide diuretics. Do not enter Loop Diuretics or Potassium Sparing Diuretics in this category.

Record if a Thiazide diuretic was Given or Not Given at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking a Thiazide diuretic before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking a Thiazide diuretic before admission.

Medications at Discharge?

- Enter Given if a Thiazide diuretic was documented as a new medication or continued at discharge.
- Enter Not Given if a Thiazide diuretic was not documented as a new medication or was discontinued at discharge.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Caduet is a combination of amlodipine and atorvastatin. Enter Given or Not Given for both Calcium Channel Blockers and Statins.

NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Given
- Not Given

Supporting Definitions:

Generic Name	Brand Name
bendoflumethiazide	naturetin
chlorothiazide	diuril, diuril sodium
chlorthalidone	hygroton, chlorthalid
chlorthalidone + atenolol *	tenoretic
chlorthalidone + azilsartan medoxomil *	edarbyclor
hydrochlorothiazide (HCTZ)	microzide, hydrodiuril, oretic esidrix, aquazide
hydroflumethiazide	saluron
indapamide	lozol
methyclothiazide	enduron, aquatensen
metolazone	zaroxolyn, mykrox

*** Denotes a combination medication.**

Required:
Yes

Thiazides (Follow-up)

Data Abstraction Instructions:

Indicate if the patient is taking a Thiazide at the time of the follow up. Do not enter Loop Diuretics or Potassium Sparing Diuretics in this category.

Medication information can be obtained from the patient's medical record or from a phone call if the patient gathers their medication bottles and reads them.

For Combination Therapy record as follows:
In case of combination drugs individual components should be recorded, e.g., Zestoretic is a combination of lisinopril (ACE Inhibitor) and hydrochlorothiazide (HCTZ, a Thiazide). Enter answers for both ACE Inhibitor AND Thiazide.
NOTE: Medication lists provided are not all inclusive. If the medication you are looking for is not in this dictionary go to https://www.drugs.com/

Selections:

- Yes
- No

Supporting Definitions:

Some examples of Thiazides are:

Generic Name	Brand Name
bendoflumethiazide	naturetin
chlorothiazide	diuril, diuril sodium
chlorthalidone	hygroton, chlorthalid
chlorthalidone + atenolol *	tenoretic
chlorthalidone + azilsartan medoxomil *	edarbyclor
hydrochlorothiazide (HCTZ)	microzide, hydrodiuril, oretic esidrix, aquazide
hydroflumethiazide	saluron
indapamide	lozol
methyclothiazide	enduron, aquatensen
metolazone	zaroxolyn, mykrox

*Denotes a combination medication.

Required:
Yes

Threatened Bypass Graft

Data Abstraction Instructions:

Indicate if the procedure performed is to maintain patency of a previously placed bypass graft.

Selections:

- Yes
  - Symptomatic
  - Asymptomatic
- No

Supporting Definitions:

This may be demonstrated via abnormal duplex scans, abnormal non-invasive imaging, or increased velocities identified during surveillance visits.

Required:
Yes

Thrombolytics (TPA, TNK, rPA)

Data Abstraction Instructions:

Record if a thrombolytic (TPA, TNK, rPA) was Given before, during and/or after the procedure or Not Given.

Medications During Procedure

- Enter Given if a thrombolytic was given before, during or after the procedure
  - Pre = a thrombolytic was given from admission or previous procedure until the current procedure.
  - During = a thrombolytic was given from the time the patient enters the room until the time the patient leaves the room
  - Post = a thrombolytic was given after the patient has left the room until discharge or next procedure.
- Enter Not Given if a thrombolytic was not given.

Selections:

- Given
  - If given, choose all that apply.
- Not Given

Required:
Yes

Thrombus (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if a blood clot formed during the procedure, within the treated vessel, which limits distal flow. Do not include any thrombus that was present at the beginning of the procedure.

Selections:

- Yes
- No

Required:
Yes

Thrombus (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if a blood clot formed, post procedure, within the treated vessel, which limits distal flow. When entering thrombus as an outcomes post-procedure, do not enter Return to OR for the same outcome. It is implied that the patient went back to the OR to have the thrombus treated.

Selections:

- Yes
  - Enter date of first occurrence post procedure
- No

Supporting Definitions:

Do not include any thrombus that was present at the beginning of the procedure. If the thrombus formed within a stent of graft, select the outcome "Stent/graft thrombosis" and do not select thrombus.

Required:
Yes

Ticagrelor (Brilinta)

Data Abstraction Instructions:

Record if ticagrelor (Brilinta) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking ticagrelor before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking ticagrelor before admission.

Medications at Discharge?

- Enter Given if ticagrelor was documented as a new medication or continued at discharge.
- Enter Not Given if ticagrelor was not documented as a new medication or was discontinued at discharge.

Selections:

- Given
- Not Given
- Contraindicated
  - Yes

    - No

Required:
Yes

Ticagrelor (Brilinta) PRE procedure

Data Abstraction Instructions:

Indicate if ticagrelor (Brilinta) was given before the procedure (from admission or previous procedure until the current procedure) and if ticagrelor (Brilinta) is contraindicated.

Contraindicated
Yes = the patient has an allergy, sensitivity, or adverse reaction to aspirin.
No = the patient does not have an allergy, sensitivity, or adverse reaction to aspirin.

Selections:

- Given
- Not Given
- Contraindicated
    - Yes
    - No

Required:
Yes

Timeframe: Presentation to incision

Data Abstraction Instructions:

Record the time from arrival at the hospital until surgical incision in hours.

Use the time and date calculator to calculate the duration between hospital arrival and surgical incision. Enter 00 in the Second field when using this calculator.

Selections:

- Enter value (hours)
- Not documented

Required:
Yes

Timeframe: Symptoms to incision

Data Abstraction Instructions:

Record the time from symptom onset until surgical incision in hours.

The time of symptom onset may be documented in the EMS records, ED records, or operative notes. If the time of symptom onset is not exact, enter as much information that is documented. For example, if the symptom onset is documented as "two days ago," enter 48 hours. If the time of symptom onset is not documented in the hospital documents, calculate the time of symptom onset from the time EMS made contact with the patient.

Use the time and date calculator to calculate the duration between symptom onset and surgical incision. Enter 00 in the Second field when using this calculator.

Selections:

- Enter value (hours)
- Not Documented

Required:
Yes

Toe Pressure

Data Abstraction Instructions:

Indicate if toe pressures were performed to diagnose PAD, CAD, or as part of a functional assessment within prior 6 months. Enter all available data for toe pressures that are valid for the present procedure (include both right and left, regardless of the operative side).

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
  - Right pre procedure toe pressure
    - Yes
      - Enter value (mm Hg)
    - No
  - Left pre procedure toe pressure
    - Yes
      - Enter value (mm Hg)
    - No
- No

Required:
Yes
Suffix:
mm Hg

Total IV Contrast Used

Data Abstraction Instructions:

Enter the volume of contrast (ionic & non-ionic) used during the procedure in milliliters (ml). This should be the total used between the start of procedure and end of procedure. If half dose contrast was used during the procedure, record only the dose of the contrast given, not the total volume. If CO2 contrast is used, do not include the volume of CO2 used in the total contrast.

This field will display when Yes is entered for Total IV Contrast Used.

Selections:

- Yes
  - Enter value in ml
- Not documented

Required:
Yes
Suffix:
ml
Minimum:
0
Maximum:
500

Tracheostomy Present

Data Abstraction Instructions:

Indicate if the patient has an open tracheostomy at the time of the current procedure.

Selections:

- Yes
- No

Required:
Yes

Transfusion (Outcomes During Procedure)

Data Abstraction Instructions:

Indicate if the patient received any transfusion for any reason during the procedure. If yes, select the type of transfusion: PRBC, Whole blood, Platelets, FFP, Other (e.g., Cryoprecipitate, Factor VIII infusion). Select all that apply.

Selections:

- Yes
  Select type of transfusion
  - PRBC,
    - if yes, enter the number of units for PRBC's (enter # of packed red blood cells 1, 2, 3, etc.)
  - Platelets
  - FFP
  - Other
- No

Supporting Definitions:

NOTE: Return of cell saver product is not captured as a transfusion.

Required:
Yes
Minimum:
1
Maximum:
20

Transfusion (Outcomes Post Procedure)

Data Abstraction Instructions:

Indicate if the patient received any transfusion for any reason post procedure. If yes, select the type of transfusion: PRBC, Whole blood, Platelets, FFP, Other (e.g., Cryoprecipitate, Factor VIII infusion). Select all that apply.

Selections:

- Yes
  - Select type of transfusion
  - PRBC
    - Enter the number of units for PRBC's (enter # of packed red blood cells 1, 2, 3, etc.
    - Enter date of first PRBC transfusion post procedure
    - Hgb prior to Transfusion
    - Symptomatic prior to Transfusion
  - Platelets
  - FFP
  - Other
- No

Required:
Yes
Minimum:
1
Maximum:
20

Hemoglobin prior to Transfusion (OPP)

Data Abstraction Instructions:

Enter the hemoglobin value drawn prior to the first Transfusion of PRBC's post procedure. This is the value on which they made the decision to transfuse.

Selections:

- Yes
  - Enter Hgb value mg/dL
- No
- Not Documented

Required:
Yes
Suffix:
mg/dL
Soft Minimum:
2
Soft Maximum:
20

Symptomatic Prior to Transfusion (OPP)

Data Abstraction Instructions:

Select if the patient was symptomatic prior to transfusion of PRBCs. Select all that apply.

Selections:

- Yes
  - Angina
  - Hypotension
  - Tachycardia
  - EKG Changes
  - Shortness of Air
  - Bleeding
  - Cancer/Chronic Anemia
- No

Required:
Yes

Transfusion (PRBCs - 30-Day Follow-up Only)

Data Abstraction Instructions:

Indicate if the patient was readmitted during the 30-day follow-up and received a transfusion of PRBCs.

This information should be gathered from a patient's medical record and not from interviewing the patient.

Selections:

- Yes
  - Enter date of occurrence post discharge
- No
- Not Documented

Required:
Yes

Transient monocular blindness (CAS)

Data Abstraction Instructions:

Indicate if the patient experienced transient monocular blindness (may be called amaurosis fugax) pre procedure.

Selections:

- Yes
- No

Supporting Definitions:

Amaurosis fugax can be caused from an embolus from the carotid artery, causing a temporary reduction in retinal artery, ophthalmic artery, or ciliary artery blood flow, leading to a decrease in retinal circulation which, in turn, causes retinal hypoxia and transient blindness. Amaurosis fugax may present as a type of TIA, during which an embolus unilaterally obstructs the lumen of the retinal or ophthalmic artery, causing a decrease in blood flow to the ipsilateral retina. Also, a severely atherosclerotic carotid artery may cause amaurosis fugax due to its stenosis of blood flow, leading to ischemia when the retina is exposed to bright light.

Note: Blurry vision is not a symptom of amaurosis fugax.

Required:
Yes

Trauma

Data Abstraction Instructions:

Indicate if the vascular procedure was performed to repair injury that resulted from trauma (motor vehicle accident, fire, fall etc.).

Selections:

- Yes
- No

Required:
Yes

Two or More Major Coronary Arteries with Stenosis ≥ 70% (LAD, LCX, RCA)

Data Abstraction Instructions:

Indicate if the patient currently has two or more major coronary arteries stenosis greater than or equal to 70% prior to the current procedure. Enter No if the arteries were intervened upon or the patient had a CABG to repair the blocked arteries.

Selections:

- Yes
- No

Supporting Definitions:

Major Coronary Arteries are defined as Left Anterior Descending (LAD), Left Circumflex Artery (LCX) and Right Coronary Artery (RCA). This does not include collaterals. Indicate only if the patient currently has coronary arteries with stenosis.

Required:
Yes

Type of Carotid Procedure (CEA)

Data Abstraction Instructions:

Indicate if the procedure was done conventionally or by eversion carotid endarterectomy.

Selections:

- Conventional
- Eversion

Supporting Definitions:

Carotid endarterectomy is conventionally undertaken by a longitudinal arteriotomy. Eversion carotid endarterectomy (CEA), employs a transverse arteriotomy and reimplantation of the carotid artery. This refers to the arteriotomy of the ICA or CCA, NOT the ECA.

Required:
Yes

Ulcer/Gangrene

Data Abstraction Instructions:

Indicate if the patient has an ulcer, gangrene, or if tissue loss is present.

Selections:

- Yes
- No

Required:
Yes

Ulceration (CAS)

Data Abstraction Instructions:

Indicate if the target lesion is ulcerated as assessed by baseline angiography.

Selections:

- Yes
- No

Required:
Yes

Unfit for general anesthesia

Data Abstraction Instructions:

Endovascular repair performed because patient was considered too high risk by surgeon or anesthesiologist for general anesthesia.

Selections:

- Yes
- No

Required:
Yes

Unfit for open AAA repair

Data Abstraction Instructions:

Endovascular repair performed because patient was considered too high risk by surgeon for open repair.

Selections:

- Yes
- No

Required:
Yes

Urgent Cardiac Surgery w/in 30 days

Data Abstraction Instructions:

Indicate if the patient is having the carotid revascularization procedure because of the need for cardiac surgery within 30 days of the current procedure.

Selections:

- Yes
- No

Supporting Definitions:

Cardiac Surgery is defined as bypass, valve, ICD patches and transplant surgery.

Required:
Yes

Vascular Access

Enter the vascular access that was established that is not a normal part of the procedure. For example, if an arterial line was put in because the patient was crashing, Enter the arterial line under Vascular Access. Do not enter the bilateral femoral vascular access for EVAR procedures. This is a normal part of the EVAR.

Vascular Access Site(s)

Data Abstraction Instructions:

Indicate location of vascular access.

Selections:

- Select artery from the drop down list

Required:
Yes

Vascular Access Type

Data Abstraction Instructions:

Indicate vascular access type.

Selections:

- Percutaneous
- Surgical Cutdown

Supporting Definitions:

Percutaneous = vascular access obtained via skin puncture without direct visualization of artery.

Surgical cutdown = access via skin incision with direct visualization of the underlying structures.

Required:
Yes

Vessel Accessed

Data Abstraction Instructions:

Indicate if the native artery or bypass graft was accessed for the current procedure.

Selections:

- Native Artery
- Bypass Graft

Required:
Yes

Access Guidance

Data Abstraction Instructions:

Indicate if guidance was used for vascular access. If both are utilized, select ultrasound.

Selections:

- Yes
  - Fluoro
  - Ultrasound
- No

Required:
Yes

Access Approach

Data Abstraction Instructions:

Enter the sheath direction at site of insertion. If more than one access was attempted, record the access approach that was used to gain access rather than the failed access approach.

Selections:

- Antegrade
- Retrograde
- Both

Supporting Definitions:

Both = the sheath was utilized in both the retrograde and antegrade direction at the same insertion site.

Required:
Yes

Sheath Size

Data Abstraction Instructions:

Indicate the largest size of the sheath placed during the procedure. Include sheaths placed at the end of the procedure.

Selections:

- Enter value (French)

Required:
Yes
Suffix:
French
Minimum:
3
Maximum:
30

Sheath Removed

Data Abstraction Instructions:

Indicate if the sheath was removed and the vascular closure type. In lysis procedures in which the sheath is left in at the end of the procedure, select yes for "Sheath Removed" and indicate the timeframe/method of eventual removal.

Selections:

- Yes
- No

Required:
Yes

Vascular Closure Type

Data Abstraction Instructions:

Indicate the arterial closure methods used regardless of whether or not they provided hemostasis. Note: If more than one vascular closure type per access site was used, select all that were used.

Selections:

- Manual: no device or a mechanical type was used, e.g., manual pressure by the personnel pulling the sheath.
- Perclose
- Angioseal
- Mynx
- Starclose
- Surgical
- Exoseal
- Compression Device (i.e.: Femstop, C Clamp, TR Band)
- Boomerang
- Hemostatic Patch
- FISH
- Vascade

Required:
Yes

Sheath Removal Time

Data Abstraction Instructions:

Indicate time between end of procedure and sheath removal. In lysis procedures in which the sheath is left in at the end of the procedure, select yes for "Sheath Removed" and indicate the timeframe/method of eventual removal.

Selections:

- 0-3 hours
- 3-24 hours
- >24 hours

Required:
Yes

Vascular Access Complications

Data Abstraction Instructions:

Indicate vascular complications at the access site during the procedure or post procedure, requiring transfusion, prolonged hospital stay, causing a drop in hemoglobin 3.0 gm/dl, or any access site complications requiring surgical repair. Select all that apply.

Selections:

- Yes
  - Retroperitoneal hematoma
  - Pseudo-aneurysm
  - Hematoma at access site
  - Bleeding at access site
  - AV fistula
  - Acute thrombosis
  - Surgical repair of the vascular access site
  - Other
- No

Supporting Definitions:

Retroperitoneal hematoma = bleeding into the anatomical space located behind the abdominal or peritoneal cavity.

Pseudoaneurysm = the occurrence of a disruption and dilation of the arterial wall without identification of the arterial wall layers at the site of the catheter entry demonstrated by arteriography or ultrasound.

Hematoma at access site = blood loss at the site of arterial or venous access due to perforation of a traversed artery or vein that causes at one or more of the following:

- transfusion
- prolonged hospital stay
- drop in hemoglobin > 3.0 gm/dl

Bleeding at access site = Blood loss associated with decreased Hgb (greater than or equal to 3.0 gm/dl) and/or causes an increased length of hospital stay. Without other obvious source (GI, GU, operative, or hemolysis) that is attributable to intraprocedural blood loss (e.g., during equipment changes) should be considered bleeding at the access site even if no hematoma is palpable or documented on imaging studies.

AV fistula = A connection between the access artery and the accompanying vein that is demonstrated by arteriography or ultrasound and most often characterized by a continuous bruit.

Acute thrombosis = Total obstruction of the artery by thrombus most commonly at the site of access.

Surgical repair of the vascular access site = such as surgical closures, exploration of the arteriotomy site, balloon angioplasty or covered stent (JOMED GraftMaster) placement.

Other = a vascular access complication that is not in this list.

Required:
Yes

Vascular Closure Type (CAS)

Data Abstraction Instructions:

Enter the arterial closure methods used regardless of whether they provided hemostasis. Select every type of vascular closure used per access if more than one closure type was used. Each type will only be counted once. E.g., two access sites, two perclose devices; select perclose box.

Selections:

- Manual
- Perclose
- Angioseal
- Mynx
- Starclose
- Exoseal
- Surgical
- Celt
- Radial compression band
- Other

Supporting Definitions:

Manual = no device or a mechanical type was used, e.g., manual pressure was held by the staff pulling the sheath.

Other = the vascular closure device is not in the list.

Required:
Yes

Vascular Surgery Locations

Each procedure type can have one or many locations. For vascular surgery procedures, enter the PVI or open procedure that is not a normal part of the main procedure. For example, if an EVAR was performed. A completion angiogram shows an occlusion in the left popliteal artery. The surgeon performs an open thrombectomy on the popliteal artery. You will enter the open thrombectomy of the popliteal artery under Locations of the EVAR procedure.

Vessel Location

Data Abstraction Instructions:

Indicate vessel location of the procedure.

Selections:

Choose Vessel Location from the drop down list

Required:
Yes

Lesion Segment Area

Data Abstraction Instructions:

Indicate if the lesion is proximal, mid, distal, or diffuse. If the lesion treated involves more than one segment, check diffuse (e.g., proximal, and mid).

Selections:

- Proximal
- Mid
- Distal
- Diffuse
- Not documented

Required:
Yes

PVI Procedure Performed

Data Abstraction Instructions:

Indicate procedure performed. Select all that apply.

Selections:

- Aspirational Atherectomy (JetStream, Pathways) = Asp-Ather
- Mechanical Thrombectomy (Angiojet) – M-Throm
- Balloon = BA
- Cryoballoon = Cryo-B
- CTO device = CTO
- Cutting Balloon = CB
- Directional Atherectomy (Fox hollow, SilverHawk) = D-Ather
- Distal Protection Device (balloon) = DPD-B
- Distal Protection Device (filter) = DPD-F
- Drug Coated Balloon = DCB
- Flow-wire = FW
- Infusion Catheter (Benephit) = Inf-Cath
- Intravascular Ultrasound = IVUS
- Laser Atherectomy (Excimer laser) = L-Ather
- Lysis (Note: do not record lysis only procedures). Select this box if lytic agents were used during the procedure in addition to any other device. Do not record procedures if only angiojet or fogarty catheter was used.) = LYS
- Not crossed with a device = ND
- Not crossed with a wire = NW
- Other Atherectomy (ClearPath) = Oth-Ather
- Open Endarterectomy
- Open Thrombectomy
- Rotational/Orbital Atherectomy (DiamondBack) = R-Ather
- Re-Entry Catheter (Pioneer, Outback) = Re-Ent-Cath
- Research (whether the procedure was done for research purpose only) = Research
- Scoring Balloon (Angiosculpt) = S-BA
- Stent = STNT
- Thrombus Aspiration (Pronto, Export, Aspire, Diver, Xtract, Fetch, QuickCat) – Throm-Asp
- Vascular Embolectomy = Vasc-E (Fogarty)

Required:
Yes

Bypass Graft

Data Abstraction Instructions:

Indicate if the PVI procedure is performed on an arterial bypass graft.

Selections:

- Yes
- No

Required:
Yes

Graft Type

Data Abstraction Instructions:

Select the type of bypass graft: synthetic or vein.

Selections:

- Synthetic
- Vein
- Not Documented

Required:
Yes

Graft Origin

Data Abstraction Instructions:

Select the bypass graft origin (inflow) using the vessel drop down box.

Selections:

- Select artery name from the drop down list

Required:
Yes

Graft Insertion

Data Abstraction Instructions:

Select the bypass graft insertion (outflow) using the vessel drop down box.

Selections:

- Select artery name from the drop down list

Required:
Yes

Lesion Length

Data Abstraction Instructions:

Visual estimate of the length of the lesion. If not dictated, use balloon/stent length. For tandem lesions, add lengths together. For diffuse disease use the length of the treated segment.

Selections:

- Enter value in mm

Required:
No
Suffix:
mm
Minimum:
0
Maximum:
1000

Heavy Calcium

Data Abstraction Instructions:

Indicate if moderate to heavy calcium is documented as being present in the lesion.

Selections:

- Yes
- No

Required:
Yes

In-stent Restenosis

Data Abstraction Instructions:

Indicate if the lesion that is being treated is within a previously place stent.

Selections:

- Yes
- No

Required:
Yes

Thrombus

Data Abstraction Instructions:

Indicate if thrombus is present before the PVI intervention.

Selections:

- Yes
- No

Supporting Definitions:

Thrombus is suggested by certain angiographic features: haziness, reduced contrast density or contrast persistence, irregular lesion contours or globular filling defects.

Required:
Yes

Pre Stenosis % (0-100)

Data Abstraction Instructions:

Record the preprocedural percent of stenosis for each segment treated. If a range is given, take the highest value. If unavailable, choose not documented.

Selections:

- Yes
  - Enter value (0 - 100%)
- Not documented

Required:
Yes
Suffix:
%
Maximum:
100

Post Stenosis % (0-100)

Data Abstraction Instructions:

Record the postprocedural percent of stenosis for each segment treated. If a range is given, take the lowest value. If not recorded, choose not documented.

Selections:

- Yes
  - Enter value (0 - 100%)
- Not documented

Required:
Yes
Suffix:
%
Maximum:
100

Final Balloon Diameter

Data Abstraction Instructions:

Indicate the diameter, in millimeters, of the final balloon used to treat this lesion. If not recorded, enter not documented.

Selections:

- Yes
  - Enter value in mm
- Not documented

Required:
Yes
Suffix:
millimeters
Minimum:
1.5
Maximum:
30

Stents

Stent Name

Data Abstraction Instructions:

Select the brand name of the stent used in the PVI procedure from the drop down list.

Selections:

- Choose Stent name

Supporting Definitions:

Other = The name of the stent is not in the list.

Required:
Yes

Stent Diameter

Data Abstraction Instructions:

Enter the diameter of the stent.

Selections:

- Enter Stent Diameter in mm

Required:
Yes
Suffix:
mm
Minimum:
2
Maximum:
30

Stent Length

Data Abstraction Instructions:

Enter the length of the stent.

Selections:

- Enter Stent Length in mm

Required:
Yes
Suffix:
mm
Minimum:
1
Maximum:
250

Vasopressors Post Operatively

Data Abstraction Instructions:

Document if dopamine ≥ 5 mcg/kg/min, or Neo-Synephrine, Levophed, epinephrine, vasopressin, or other IV vasopressor was administered post procedure.

Selections:

- Yes
- No

Required:
Yes

Vein Cuff

Data Abstraction Instructions:

Indicate if a vein cuff was used at anastomosis.

Selections:

- Yes
- No

Supporting Definitions:

Prosthetic grafts can be anastomosed directly to the recipient artery. However, several techniques incorporating vein into the distal anastomosis have been utilized in an effort to improve long-term patency.

Required:
Yes

Vein Graft

Data Abstraction Instructions:

Indicate if a vein graft was used for bypass. If yes, indicate the type of vein graft. If both a vein and a prosthetic graft were used, enter Yes for both Vein Graft and Prosthetic Graft.

Selections:

- Yes
  - Reversed (greater saphenous vein) GSV
  - In Situ GSV
  - Non-reversed transposed GSV
  - Lesser saphenous
  - Cephalic
  - Basilic
  - Allograft
  - Composite
  - Other
- No

Supporting Definitions:

Reversed GSV = an incision is made at the proximal and distal ends of the vein. The vein is reversed to allow blood to flow through.

In Situ GSV = The GSV can be used In Situ, in its native position in the vascular bed where only the origin and insertion are maneuvered to create an anastomosis to the artery.

Non-reversed transposed GSV = The GSV can be Non-Reversed Transposed, or moved, to create a bypass.

Lesser saphenous = a venous blood vessel that runs up the length of the leg. It originates from the junction formed between two small veins in the foot, the fifth toe's dorsal vein and the dorsal venous arch.

Cephalic = The cephalic vein courses through both the forearm and arm and terminates by draining into the axillary vein.

Basilic = The basilic vein lies in the deep subcutaneous tissue at the antecubital crease and pierces the brachial fascia in the distal third of the upper arm.

Allograft = A donor cadaver vein. CryoVein is a brand name of a cadaver vein.

Composite = A combination of vein graft and prosthetic graft.

Other = Options that are not in the list above, such as Xenograft.

Required:
Yes

Vein Graft Harvest

Data Abstraction Instructions:

Indicate the type of vein that was harvested from the patient during the current open bypass surgery. If a prosthetic graft, allograft, or xenograft is implanted, enter Not Harvested.

Selections:

- Open
- Endoscopic
- Not harvested

Supporting Definitions:

Open = A long incision or skip incisions are made into the skin.
Endoscopic = small puncture incisions and an endoscope with a CO2 balloon, a dissector tool, a harvesting tool, and a cutting tool using cautery to cut side branches.
Not harvested = A prosthetic graft, allograft or xenograft was used.

Required:
Yes

Number of Vein Segments

Data Abstraction Instructions:

Indicate the number of vein segments used in the bypass procedure.

Selections:

- One
- Two
- Three or more

Required:

Yes

Minimal Vein Graft Diameter

Data Abstraction Instructions:

Enter the minimal diameter of the vein that was used as the bypass graft. Values can be found in duplex venous imaging pre-operatively or dictated by the physician. If the minimal vein graft diameter is not recorded, enter Not documented.

Selections:

- Yes
  - Enter value (mm)
- Not Documented

Required:
Yes

Vein Mapping

Data Abstraction Instructions:

Indicate if vein mapping was performed within 6 months prior to the open bypass procedure. If Yes, enter the Minimal Vein Diameter. If No, enter the reason vein mapping was not performed. Do not enter the ultrasound that was used intra operatively to determine the vein diameter during the open bypass procedure.

For patients who have multiple procedures during the same hospitalization, do not use the same pre-procedure imaging studies as used prior to the first procedure. Only enter imaging studies performed prior to the specific procedure being entered.

Selections:

- Yes
- No

Required:
Yes

Minimal Vein Diameter

Data Abstraction Instructions:

Enter the minimal vein diameter documented on the vein mapping report within 6 months of the open bypass procedure. If vein mapping was performed on both extremities, enter the smallest value of both extremities.

Selections:

- Enter the smallest vein diameter (mm)
- Not Documented

Supporting Definitions:

Not Documented = There is documentation of vein mapping being performed within 6 months of the open bypass procedure, however, the values are not documented.

Required:
Yes

Reason vein mapping was not performed

Data Abstraction Instructions:

Indicate the reason vein mapping was not performed for the current procedure.

Selections:

- Prior vein mapping with inadequate vein diameter
- Prior bilateral vein harvest
- AKA
- Not documented

Supporting Definitions:

Prior vein mapping with inadequate vein diameter = The patient has poor vein quality based on prior testing showing minimal vein diameter of <2.5mm.
Prior bilateral vein harvest = Veins were harvested/ablated from both extremities.
AKA = Patient had an above the knee amputation.
Not Documented = The reason vein mapping was not performed is not documented.

Required:
Yes

Vessel Perforation

Data Abstraction Instructions:

Indicate if there was a vessel perforation (venous or arterial) during the procedure. If the perforation was treated successfully, enter the treatment option to repair the perforation. Select all treatment options that apply.

Selections:

- Yes
  - Successful
    - Balloon
    - Covered stent
    - Bare metal stent
    - External compression
    - Reversal of anticoagulation
    - No treatment
  - Unsuccessful
- No

Supporting Definitions:

Required:
Yes

Vessel closure

Data Abstraction Instructions:

Indicate how the vessel at the site of thrombectomy was closed.

Selections:

- Primary
- Patch
- Not documented

Supporting Definitions:

Primary = The arteriotomy is closed with sutures.

Patch = The arteriotomy is covered with a patch of vein or prosthetic material and sutured into place.

Required:
Yes

Vessel location

Data Abstraction Instructions:

Indicate vessel location of the procedure. If an open thrombectomy is performed on multiple vessels in the same surgery, enter the location of the skin incision.

Selections:

Choose the artery location from the drop down list.

Required:
Yes

Visible Thrombus Present (CAS)

Data Abstraction Instructions:

Indicate if the target lesion contains thrombus as assessed by baseline angiography and implied by presence of filling defect.

Selections:

- Yes
- No

Required:
Yes

Visible Thrombus Present (CEA)

Data Abstraction Instructions:

Indicate if a thrombus (blood clot) was present on direct visual inspection intraoperatively during the carotid endarterectomy (CEA) procedure.

Selections:

- Yes
- No

Required:
Yes

Warfarin/Coumadin

Data Abstraction Instructions:

Record if warfarin (Coumadin) was Given, Not Given, and/or Contraindicated at admission and/or discharge.

Home Medications Prior to Admission?

- Enter Given if the patient was taking warfarin before admission. Enter home medications prior to admission for patients who expire before discharge.
- Enter Not Given if the patient was not taking warfarin before admission.

Medications at Discharge?

- Enter Given if warfarin was documented as a new medication or continued at discharge.
- Enter Not Given if warfarin was not documented as a new medication or was discontinued at discharge.

Contraindicated

- **Yes** = the patient has an allergy, sensitivity, or adverse reaction to a medication.
- **No** = the patient does not have an allergy, sensitivity, or adverse reaction to a medication.

Selections:

- Given
- Not Given
- Contraindicated for Warfarin/Coumadin
    - Yes
    - No

Required:
Yes

Weight

Data Abstraction Instructions:

Enter actual or estimated weight, in kilograms, that is closest to the procedure start time.

Weight in kgs = Weight in lbs. ÷ 2.2.

Selections:

- Enter value in kg

Supporting Definitions:

The weight closest to procedure time is the weight that is used to calculate the medications that are given during the procedure.

Required:
Yes
Suffix:
kg
Maximum:
300

Worst Modified Rankin Score

Data Abstraction Instructions:

Enter the worst Modified Rankin Score (mRS) documented post-procedure and before discharge. This field will display if Yes is entered for New Stroke. The Worst Modified Rankin Score field will be located after New Stroke under Outcomes.
The mRS assesses disability in patients who have suffered a stroke and is compared over time to check for recovery and degree of continued disability.

- A post-procedure mRS value (i.e., 0, 1, 2, 3, 4, or 5) may be documented by the physician/APN/PA, nurse (RN), medical assistant, or any individual trained to perform the mRS.
- Select the highest value if more than one post-procedure mRS value is documented.
- If a score range is documented, e.g., 2-3, enter the higher value.
- The abstractor cannot derive an mRS from clinical documentation.

Selections:

- Yes
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
- No

Supporting Definitions:

Yes = There is documentation of an mRS post-procedure.

No = There is no documentation of an mRS post-procedure, or the post-procedure mRS cannot be determined.

Required:
Yes

Wound (WIfI)

Data Abstraction Instructions:

Indicate if the patient has a wound present before the open bypass procedure and to what degree.

Grade	*Ulcer*	*Gangrene*
0	No ulcer	No gangrene
Clinical description: ischemic rest pain (requires typical symptoms + ischemia grade 3); no wound.		
1	Small, shallow ulcer(s) on distal leg or foot; no exposed bone, unless limited to distal phalanx	No gangrene
Clinical description: minor tissue loss. Salvageable with simple digital amputation (1 or 2 digits) or skin coverage.		
2	Deeper ulcer with exposed bone, joint or tendon; generally not involving the heel; shallow heel ulcer, without calcaneal involvement	Gangrenous changes limited to digits
Clinical description: major tissue loss salvageable with multiple (≥3) digital amputations or standard TMA ± skin coverage.		
3	Extensive, deep ulcer involving forefoot and/or midfoot; deep, full thickness heel ulcer ± calcaneal involvement	Extensive gangrene involving forefoot and /or midfoot; full thickness heel necrosis ± calcaneal involvement
Clinical description: extensive tissue loss salvageable only with a complex foot reconstruction or nontraditional TMA (Chopart or Lisfranc); flap coverage or complex wound management needed for large soft tissue defect		

Selections:

- Yes
  - Grade 1: Minor tissue loss; small shallow ulceration
  - Grade 2: Major tissue loss; deeper ulceration with exposed bone, joint, or tendon
  - Grade 3: Extensive ulcer/gangrene;
  - Not Documented
- No

Required:
Yes

Wound Complication

Data Abstraction Instructions:

Indicate if the patient has experienced an issue with surgical healing during the follow-up interval. This can be an infection, hematoma, or other issue with the CEA surgical site.

Examples:

- An infection that does not require admission to the hospital, IV antibiotics or wound culture.
- A post-op hematoma that requires admission to the hospital to evacuate the hematoma. Enter Readmission to Hospital>Other AND Wound Complication for this scenario.

If the patient reports a wound complication, you should verify the extent/type with the medical record, or a call to their physician, or any actual documentation of the complication.

Selections:

- Yes
  - Infection
  - Hematoma
  - Other
- No

Required:
Yes

Zip Code

Data Abstraction Instructions:

Enter zip code of patient’s primary address. If the patient does not live within the United States or is homeless, leave this field blank.

Selections:

- Enter five digit value

Required:
No
Maximum:
99999
Maximum Length:
5