



## Vascular Surgery Dashboard Report Dictionary

Logo updated with Q1 2021 report release

This report contains all VS procedure types in summary form. The data are reported at the collaborative and hospital level. It will not display physician level data.

# Table of Contents

Carotid Procedures .....	5
Carotid Endarterectomy (CEA) .....	5
Symptomatic .....	5
Asymptomatic .....	5
Cardioprotective Medications .....	5
Combined Stroke/Death/Myocardial Injury (Procedure end to 30 days) .....	5
Carotid Stent (CAS) .....	6
Symptomatic .....	6
Asymptomatic .....	6
Cardioprotective medications .....	6
Combined Stroke/Death/Myocardial Injury (Procedure end to 30 days) .....	7
AAA Repair .....	8
Open AAA Repair .....	8
Indications .....	8
Cardioprotective Medications .....	8
Elective Open AAA .....	8
Renal Failure .....	9
Pneumonia .....	9
Myocardial Injury .....	9
Bleeding ( $\geq 4$ units PRBCs) .....	9
Urgent/Emergent Open AAA .....	10
Renal Failure .....	10
Pneumonia .....	10
Myocardial Injury .....	11
Bleeding ( $\geq 4$ units PRBCs) .....	11
EVAR .....	11
Indications .....	11
Cardioprotective Medications .....	11
Elective EVAR .....	12
Renal Failure .....	12
Pneumonia .....	13
Myocardial Injury .....	13
Bleeding ( $>4$ units PRBCs) .....	13
Urgent/Emergent EVAR .....	13
Renal Failure .....	14
Pneumonia .....	14
Myocardial Injury .....	14
Bleeding ( $>4$ units PRBCs) .....	14
PAD/Open Bypass Procedures .....	16
Indications .....	16
Claudication .....	16

Rest Pain .....	16
Tissue Loss .....	16
Graft Type (origin from femoral).....	16
Vein graft .....	16
Prosthetic.....	16
Cardioprotective Medications .....	16
Aspirin .....	16
Statin .....	16
ACE-I/ARB.....	17
Elective Bypass .....	17
Death (Procedure end to 30 days) .....	17
Major Morbidity (Procedure end to 30 days) .....	17
Readmission (Procedure end to 30 days) .....	18
Urgent/Emergent Bypass .....	18
Death (Procedure end to 30 days) .....	18
Major Morbidity (Procedure end to 30 days) .....	18
Readmission (Procedure end to 30 days) .....	19
Wound Complication (PAD OBP) .....	20
Wound Complication Rate (Overall) .....	20
Wound Complication Rate (Elective).....	20
Wound Complication Rate (Urgent/Emergent) .....	20
Average Age (mean, stdev) .....	20
Obesity .....	20
Diabetes .....	20
Procedure Variables .....	20
Indications .....	21
Redo Procedure.....	21
Skin Prep Type .....	21
Temperature (< 36 deg) .....	21
Glucose (> 180) .....	21
Wound Closure .....	21
Post-Op Myocardial Injury (Procedure end to 30 Days, all VS procedures).....	23
Myocardial Injury Rate (Overall) .....	23
Myocardial Injury Rate (Elective) .....	23
Myocardial Injury Rate (Urgent/Emergent).....	23
Procedure Type .....	24
PAD/Open Bypass .....	24
AAA .....	24
CVOD .....	24
Average Age (mean, stdev) .....	25
Diabetes .....	25
Pre-op Stress Test.....	25

Cardioprotective Medications .....	25
Aspirin .....	25
Clopidogrel (Plavix).....	25
ASA & Clopidogrel .....	25
Statin .....	25
Beta Blocker .....	26
ACE-Inhibitor .....	26
Pre Procedure BNP >100 pg/mL .....	26
Post-operative HgB <= 8.0 .....	26
All Discharges.....	26
Discharges with Myocardial Injury <=8.0.....	26
Transfusion (Procedure end to 30 days) .....	27
Transfusion Rate (Overall).....	27
Transfusion Rate (Elective).....	27
Transfusion Rate (Urgent/Emergent) .....	27
Procedure Type.....	27
Open Bypass .....	27
EVAR.....	28
Open AAA.....	28
Pre-procedure Anemia .....	28
All discharges with anemia .....	28
Transfused discharges with anemia.....	28
Use of Lytic/Anticoagulant .....	29
All discharges with lytics .....	29
Discharges with lytics and transfusion .....	29

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## Carotid Procedures

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This line will act as a header for the carotid procedure details. It will also display the total number of combined CAS and CEA procedures.

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### Carotid Endarterectomy (CEA)

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The numerator is the number of CEA procedures. The denominator is the total number of CEA and CAS procedures.

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#### Symptomatic

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The numerator is the number of CEA procedures with "yes" marked for "Target Lesion Symptomatic w/in Past 6 Months". The denominator is the total number of CEA procedures.

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#### Asymptomatic

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The numerator is the number of CEA procedures with "no" marked for "Target Lesion Symptomatic w/in Past 6 Months". The denominator is the total number of CEA procedures.

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### Cardioprotective Medications

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Subheader for CEA pre-procedure cardioprotective medications.

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#### Aspirin

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The numerator is the number of discharges containing a CEA procedure with Aspirin marked "Given" for medications on admission. The denominator is the number of discharges containing a CEA procedure. Patients marked as contraindicated at admission will be excluded.

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#### Clopidogrel (Plavix)

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The numerator is the number of discharges containing a CEA with Clopidogrel (Plavix) marked "Given" for medications on admission. The denominator is the number of discharges containing a CEA procedure. Patients marked as contraindicated at admission will be excluded.

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#### ASA & Clopidogrel

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The numerator is the number of discharges containing a CEA with both Aspirin AND Clopidogrel (Plavix) marked "Given" for medications on admission. The denominator is the number of discharges containing a CEA procedure. Patients marked as contraindicated at admission to either medication will be excluded.

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#### Statin

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The numerator is the number of discharges containing a CEA with Statin marked "Given" for medications on admission. The denominator is the number of discharges containing a CEA procedure. Patients marked as contraindicated at admission will be excluded.

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### Combined Stroke/Death/Myocardial Injury (Procedure end to 30 days)

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For cases entered on 8/19/2019 and previous the definition was: The numerator is the number of discharges containing a CEA procedure in which "yes" is indicated for any of the following outcome fields; Death, MI, New Stroke/TIA (archived), or New Stroke (Note: New TIA is NOT included). It also includes discharges in which the 30 day follow up meets the following criteria; "Dead" indicated for Current Living Status, "Yes" indicated for MI, or "Yes" indicated for Neurologic Deficit(s) Occurred Since Discharge with "Deficit occurred and duration was greater than 24 hours" or "Persistent deficit occurred, lasted greater than 24 hours" selected. The denominator is the number of discharges containing a CEA procedure.

For cases entered on 8/20/2019 and forward the definition will be:

Numerator: The number of discharges containing a CEA procedure which meet at least one of the following criteria. CEA cases that are concurrent with CABG are excluded from the numerator.

1. Outcomes
    - a. Death = Yes AND During procedure or Post Procedure are marked.
    - b. Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
    - The Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.
      - c. New Stroke = Yes
      - d. New TIA = No
- OR
2. Follow Up Interval = 30 Days AND any of the following:
    - a. Current Living Status = Dead AND
      - The Current Living Status Death date is within 30 days of the procedure end date.
    - b. MI = Yes AND
      - The date of the follow up MI is within 30 days of the procedure end date.
    - c. Neurologic Deficit(s) Occurred Since Discharge = Yes AND
      - i. Deficit occurred and duration was greater than 24 hours, but did completely resolve is marked OR
      - ii. Persistent deficit occurred, lasted greater than 24 hours, and did not completely resolve is marked
    - The date of the Neurologic Deficit Occurred Since Discharge is within 30 days of the procedure end date.

Denominator: The number of discharges containing a CEA procedure.

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## Carotid Stent (CAS)

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The numerator is the number of CAS procedures. The denominator is the total number of CEA and CAS procedures.

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### Symptomatic

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The numerator is the number of CAS procedures with “yes” marked for “Target Lesion Symptomatic w/in Past 6 Months”. The denominator is the total number of CAS procedures.

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### Asymptomatic

---

The numerator is the number of CAS procedures with “no” marked for “Target Lesion Symptomatic w/in Past 6 Months”. The denominator is the total number of CAS procedures.

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## Cardioprotective medications

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Subheader for CAS pre-procedure cardioprotective medications.

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### Aspirin

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The numerator is the number of discharges containing a CAS procedure with Aspirin marked “Given” for medications on admission. The denominator is the number of discharges containing a CAS procedure. Patients marked as contraindicated at admission will be excluded.

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### Clopidogrel (Plavix)

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The numerator is the number of discharges containing a CAS with Clopidogrel (Plavix) marked “Given” for medications on admission. The denominator is the number of discharges containing a CAS procedure. Patients marked as contraindicated at admission will be excluded.

---

### ASA & Clopidogrel

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The numerator is the number of discharges containing a CAS with both Aspirin AND Clopidogrel (Plavix) marked “Given” for medications on admission. The denominator is the number of discharges containing a CAS procedure. Patients marked as contraindicated at admission to either medication will be excluded.

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## Statin

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The numerator is the number of discharges containing a CAS with Statin marked "Given" for medications on admission. The denominator is the number of discharges containing a CAS procedure. Patients marked as contraindicated at admission will be excluded.

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## Combined Stroke/Death/Myocardial Injury (Procedure end to 30 days)

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For cases entered on 8/19/2019 and prior the definition was: The numerator is the number of discharges containing a CAS procedure in which "yes" is indicated for any of the following outcome fields; Death, MI, New Stroke/TIA (archived), or New Stroke (Note: New TIA is NOT included). It also includes discharges in which the 30 day follow up meets the following criteria; "Dead" indicated for Current Living Status, "Yes" indicated for MI, or "Yes" indicated for Neurologic Deficit(s) Occurred Since Discharge with "Deficit occurred and duration was greater than 24 hours" or "Persistent deficit occurred, lasted greater than 24 hours" selected. The denominator is the number of discharges containing a CAS procedure.

For cases entered on 8/20/2019 and forward the definition will be:

Numerator: The number of discharges containing a CAS procedure which meet at least one the following criteria. CAS discharges that are concurrent with CABG are excluded from the denominator.

1. Outcomes

- a. Death = Yes AND During procedure or Post Procedure are marked.
- b. Myocardial Injury = Yes AND STEMI or NSTEMI are markedT

- The Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.

- c. New Stroke = Yes
- d. New TIA = No

OR

2. Follow Up Interval = 30 Days AND any of the following:

- a. Current Living Status = Dead AND

- The Current Living Status Death date is within 30 days of the procedure end date.

- b. MI = Yes AND

- The date of the follow up MI is within 30 days of the procedure end date.

- c. Neurologic Deficit(s) Occurred Since Discharge = Yes AND

- i. Deficit occurred and duration was greater than 24 hours, but did completely resolve is marked OR
- ii. Persistent deficit occurred, lasted greater than 24 hours, and did not completely resolve is

marked

- The date of the Neurologic Deficit Occurred Since Discharge is within 30 days of the procedure end date.

Denominator: The number of discharges containing a CAS procedure.

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## AAA Repair

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This line will act as a header for all AAA procedures. It will also display the total number of combined open AAA and EVAR procedures.

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## Open AAA Repair

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The numerator is the number of discharges containing an OAAA procedure. The denominator is the total number of discharges containing an OAAA or EVAR procedure.

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## Indications

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Subheader for open AAA procedure indications.

Note: A procedure may have more than one indication marked.

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## Asymptomatic

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The numerator is the number of open AAA procedures with “yes” for Asymptomatic or Aneurysm Diameter AND “no” for Abdominal/Back Pain and Infection in procedure indication. The denominator is the total number of open AAA procedures.

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## Symptomatic

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The numerator is the number of open AAA procedures with “yes” indicated for Abdominal/Back pain in procedure indication. The denominator is the total number of Open AAA procedures.

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## Rupture

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The numerator is the number of Open AAA procedures with “yes” marked for “Ruptured AAA”. The denominator is the total number of Open AAA procedures.

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## Cardioprotective Medications

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Subheader for open AAA pre-procedure cardioprotective medications.

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## Aspirin

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The numerator is the number of discharges containing an open AAA procedure with Aspirin marked “Given” for medications on admission. The denominator is the number of discharges containing an open AAA procedure. Patients marked as contraindicated at admission will be excluded.

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## Statin

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The numerator is the number of discharges containing an open AAA with Statin marked “Given” for medications on admission. The denominator is the number of discharges containing an open AAA procedure. Patients marked as contraindicated at admission will be excluded.

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## Beta Blocker

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The numerator is the number of discharges containing an open AAA with Beta Blocker marked “Given” for medications on admission. The denominator is the number of discharges containing an open AAA procedure. Patients marked as contraindicated at admission will be excluded.

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## Elective Open AAA

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The numerator is the number of discharges containing an Open AAA procedure with the Procedure Status marked "Elective". The denominator is the total number of discharges containing an Open AAA procedure.

In discharges with multiple procedures, use the status of the first vascular surgery procedure to determine the "Procedure Status". For



these purposes, a "vascular surgery procedure" is "Abdominal Aortic Stenosis", "Open Bypass / Revascularization", "Open Abdominal Aortic Aneurysm", or "Endovascular Aneurysm Repair (EVAR)".

## Death (Procedure end to 30 days)

The numerator is the number of VS discharges containing an Elective open AAA procedure where a death occurred during the procedure, or a death occurred after the procedure and before discharge, or death is entered on the 30 Day VS Follow-up. The date of death that occurred post-procedure is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an Elective open AAA procedure.

## Major Morbidity (Procedure end to 30 days)

Subheader for open AAA 30 day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day VS follow up) to be considered in the numerator. The date of the outcome on the 30 day VS follow up must be within 30 days of the procedure end date.

All discharges reported here have the Procedure Status marked "Elective".

## Renal Failure

The numerator is the number of discharges containing an Elective open AAA procedure that meet the follow criteria:

- Under Outcomes Post Procedure: New Requirement for Dialysis = Yes AND the date of this outcome is within 30 days of the procedure end date.

- OR -

- On the 30 day VS follow-up: Renal Failure/Dialysis = Yes and the date of the follow-up is within 30 days of the procedure end date.
- The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Elective".

## Pneumonia

The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Elective) with "yes" indicated for Infection/Sepsis (Pulmonary selected) as an Outcome Post Procedure (within 30 days of the procedure end date). The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Elective".

Note: Pneumonia is not tracked on 30 day follow-up

## Myocardial Injury

From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Elective) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Elective".

From 8/20/2019 and forward the definition will be:

Numerator: The number of Elective OAAA discharges that meet at least one of the following criteria:

- Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI are marked OR
- 30 Day Follow-up: MI = Yes
  - The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of Elective OAAA discharges.

## Bleeding (>= 4 units PRBCs)

The numerator is the number of discharges containing an Elective open AAA procedure where a transfusion of 4 or more units of PRBCs was given post-procedure for any procedure within that discharge (within 30 days of the procedure end date).

The denominator is the total number of discharges containing an Elective open AAA procedure.

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### **Readmission (Procedure end to 30 days)**

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The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Elective) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Elective".

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### **Urgent/Emergent Open AAA**

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The numerator is the number of discharges containing an Open AAA procedure with the Procedure Status marked "Urgent" or "Emergent". The denominator is the total number of discharges containing an Open AAA procedure.

In discharges with multiple procedures of the same type, the first procedure will be used to determine "Procedure Status".

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### **Death (Procedure end to 30 days)**

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The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent or Emergent) that meet the following criteria:

- Death = yes under Outcomes During Procedure OR Outcomes Post Procedure.
- The date of death under Outcomes Post Procedure is within 30 days of the procedure end date.

- OR -

- Current Living Status = Dead on the 30 Days VS Follow-up AND the Date of Death is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent or Emergent".

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### **Major Morbidity (Procedure end to 30 days)**

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Subheader for open AAA 30 day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day follow up) to be considered in the numerator.

All discharges reported here have the Procedure Status marked "Urgent" or "Emergent".

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### **Renal Failure**

---

The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent or Emergent) that meet the follow criteria:

- Under Outcomes Post Procedure: New Requirement for Dialysis = Yes AND the date of this outcome is within 30 days of the procedure end date.

- OR -

- On the 30 day VS follow-up: Renal Failure/Dialysis = Yes and the date of the follow-up is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent" or "Emergent".

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### **Pneumonia**

---

The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Infection/Sepsis (Pulmonary selected) as an Outcome Post Procedure (within 30 days of the procedure end date). The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent" or "Emergent".

Note: Pneumonia is not tracked on 30 day follow-up

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## Myocardial Injury

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent" or "Emergent".

From 8/20/2019 and forward the definition will be:

Numerator: The number of Urgent or Emergent OAAA discharges which meet at least one the following criteria:

- Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI are marked

OR

- 30 Day Follow-up: MI = Yes
- The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of Urgent OR Emergent OAAA discharges.

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## Bleeding (>= 4 units PRBCs)

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The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent/Emergent) in which "yes" is indicated for transfusion/PRBCs and the # of packed red blood cells >= 4 as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent" or "Emergent".

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## Readmission (Procedure end to 30 days)

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The numerator is the number of discharges containing an open AAA procedure (Procedure Status = Urgent or Emergent) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an open AAA procedure with the Procedure Status marked "Urgent" or "Emergent".

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## EVAR

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The numerator is the number of discharges containing an EVAR procedure. The denominator is the total number of discharges containing an OAAA or EVAR procedure.

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## Indications

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Subheader for EVAR procedure indications.

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### Asymptomatic

---

The numerator is the number of EVAR procedures with "yes" for Asymptomatic or Aneurysm Diameter AND "no" for Abdominal/Back Pain and Infection in procedure indication. The denominator is the total number of EVAR procedures.

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### Symptomatic

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The numerator is the number of EVAR procedures with "yes" indicated for Abdominal/Back pain in procedure indication. The denominator is the total number of EVAR procedures.

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### Rupture

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The numerator is the number of EVAR procedures with "yes" marked for "Ruptured AAA". The denominator is the total number of EVAR procedures.

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## Cardioprotective Medications

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Subheader for EVAR pre-procedure cardioprotective medications.

## Aspirin

The numerator is the number of discharges containing an EVAR procedure with Aspirin marked "Given" for medications on admission. The denominator is the number of discharges containing an EVAR procedure. Patients marked as contraindicated at admission will be excluded.

## Statin

The numerator is the number of discharges containing an EVAR with Statin marked "Given" for medications on admission. The denominator is the number of discharges containing an EVAR procedure. Patients marked as contraindicated at admission will be excluded.

## Beta Blocker

The numerator is the number of discharges containing an EVAR with Beta Blocker marked "Given" for medications on admission. The denominator is the number of discharges containing an EVAR procedure. Patients marked as contraindicated at admission will be excluded.

## Elective EVAR

The numerator is the number of discharges containing an EVAR procedure with the Procedure Status marked "Elective". The denominator is the total number of discharges containing an EVAR procedure.

In discharges with multiple procedures of the same type, the first procedure will be used to determine "Procedure Status".

## Death (Procedure end to 30 days)

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) that meet the following criteria:

- Death = yes under Outcomes During Procedure OR Outcomes Post Procedure.
- The date of death under Outcomes Post Procedure is within 30 days of the procedure end date.

- OR -

- Current Living Status = Dead on the 30 Days VS Follow-up AND the Date of Death is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

## Major Morbidity (Procedure end to 30 days)

Subheader for EVAR 30 day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day follow up) to be considered in the numerator.

All discharges reported here have the Procedure Status marked "Elective".

## Renal Failure

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) that meet the follow criteria:

- Under Outcomes Post Procedure: New Requirement for Dialysis = Yes AND the date of this outcome is within 30 days of the procedure end date.

- OR -

- On the 30 day VS follow-up: Renal Failure/Dialysis = Yes and the date of the follow-up is within 30 days of the procedure end date.

- The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

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## Pneumonia

---

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) with "yes" indicated for Infection/Sepsis (Pulmonary selected) as an Outcome Post Procedure (within 30 days of the procedure end date). The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

Note: Pneumonia is not tracked on 30 day follow-up

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## Myocardial Injury

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

From 8/20/2019 and forward the definition will be:

Numerator: The number of Elective EVAR discharges which meet at least one of the following criteria:

- Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI are marked.

OR

- 30 Day Follow-up: MI = Yes
- The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of Elective EVAR discharges.

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## Bleeding (>4 units PRBCs)

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The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) in which "yes" is indicated for transfusion/PRBCs and the # of packed red blood cells > 4 as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

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## Readmission (Procedure end to 30 days)

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The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Elective) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of the Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Elective".

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## Urgent/Emergent EVAR

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The numerator is the number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent". The denominator is the total number of discharges containing an EVAR procedure.

In discharges with multiple procedures of the same type, the first procedure will be used to determine "Procedure Status".

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## Death (Procedure end to 30 days)

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The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent or Emergent) that meet the following criteria:

- Death = yes under Outcomes During Procedure OR Outcomes Post Procedure.
- The date of death under Outcomes Post Procedure is within 30 days of the procedure end date.

- OR -

- Current Living Status = Dead on the 30 Days VS Follow-up AND the Date of Death is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent".

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## Major Morbidity (Procedure end to 30 days)

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Subheader for EVAR 30 day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day follow up) to be considered in the numerator.

All discharges reported here have the Procedure Status marked "Urgent" or "Emergent".

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## Renal Failure

---

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent or Emergent) that meet the follow criteria:

- Under Outcomes Post Procedure: New Requirement for Dialysis = Yes AND the date of this outcome is within 30 days of the procedure end date.

- OR -

- On the 30 day VS follow-up: Renal Failure/Dialysis = Yes and the date of the follow-up is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent".

---

## Pneumonia

---

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Infection/Sepsis (Pulmonary selected) as an Outcome Post Procedure (within 30 days of the procedure end date). The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent".

Note: Pneumonia is not tracked on 30 day follow-up

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## Myocardial Injury

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent".

From 8/20/2019 and forward the definition will be:

Numerator: The number of Urgent or Emergent EVAR discharges which meet one of the following criteria:

- Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI are marked.

OR

- 30 Day Follow-up: MI = Yes
- The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of urgent or emergent EVAR discharges.

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## Bleeding (>4 units PRBCs)

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The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent/Emergent) in which "yes" is indicated for transfusion/PRBCs and the # of packed red blood cells > 4 as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Emergent".

**Readmission (Procedure end to 30 days)**

---

The numerator is the number of discharges containing an EVAR procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of the Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an EVAR procedure with the Procedure Status marked "Urgent" or "Elective".

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## PAD/Open Bypass Procedures

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Display the total number of PAD Open Bypass Procedures (see below).

The denominator for this category is PAD open bypass, defined as all open bypass procedures, excluding those with "Graft Origin" at any of the following locations; Celiac, Inferior Mesenteric, Brachial (Right or Left), Common Carotid (Right or Left), Pulmonary (Right or Left), Radial (Right or Left), Renal (Right or Left), or Superior Mesenteric.

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### Indications

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Subheader for PAD open bypass procedure indications.

Note: A discharge may contain more than one procedure. Each procedure can have more than one indication marked.

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### Claudication

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The numerator is the number of open bypass procedures with claudication marked as an indication. The denominator is the total number of PAD open bypass procedures.

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### Rest Pain

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The numerator is the number of open bypass procedures with rest pain marked as an indication. The denominator is the total number of PAD open bypass procedures.

---

### Tissue Loss

---

The numerator is the number of open bypass procedures with Ulcer / Gangrene = yes OR Wound (WIFI) = yes in the indications. The denominator is the total number of PAD open bypass procedures.

---

### Graft Type (origin from femoral)

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This is a subheader for the graft type used. It is reported only for those procedures with an origin in the common femoral or superficial femoral artery.

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### Vein graft

---

The numerator is the number of open bypass procedures with a "Graft origin" of Common Femoral (Right or Left) or Superficial Femoral (Right or Left) that have "yes" indicated for Vein Graft. The denominator is the number of open bypass procedures with a "Graft origin" of Common Femoral (Right or Left) or Superficial Femoral (Right or Left).

---

### Prosthetic

---

The numerator is the number of open bypass procedures with a "Graft origin" of Common Femoral (Right or Left) or Superficial Femoral (Right or Left) that have "yes" indicated for Prosthetic Graft. The denominator is the number of open bypass procedures with a "Graft origin" of Common Femoral (Right or Left) or Superficial Femoral (Right or Left).

---

### Cardioprotective Medications

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Subheader for PAD open bypass pre-procedure cardioprotective medications.

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### Aspirin

---

The numerator is the number of discharges containing a PAD open bypass procedure with Aspirin marked "Given" for medications on admission. The denominator is the number of discharges containing a PAD open bypass procedure. Patients marked as contraindicated at admission will be excluded.

---

### Statin

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The numerator is the number of discharges containing a PAD open bypass procedure with Statin marked "Given" for medications on admission. The denominator is the number of discharges containing a PAD open bypass procedure. Patients marked as contraindicated at admission will be excluded.

## ACE-I/ARB

The numerator is the number of discharges containing a PAD open bypass procedure with ACE Inhibitors OR Angiotensin II Receptor Antagonist (ARB's) marked "Given" for medications on admission. The denominator is the number of discharges containing a PAD open bypass procedure. Patients marked as contraindicated at admission to both medications will be excluded.

## Elective Bypass

The numerator is the number of discharges containing a PAD Open Bypass procedure with the Procedure Status marked "Elective". The denominator is the total number of discharges containing a PAD Open Bypass procedure.

In discharges with multiple procedures of the same type, the first procedure will be used to determine "Procedure Status".

## Death (Procedure end to 30 days)

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Elective) that meet the following criteria:

- Death = yes under Outcomes During Procedure OR Outcomes Post Procedure.
- The date of death under Outcomes Post Procedure is within 30 days of the procedure end date.

- OR -

- Current Living Status = Dead on the 30 Days VS Follow-up AND the Date of Death is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an PAD open bypass procedure with the Procedure Status marked "Elective".

## Major Morbidity (Procedure end to 30 days)

Subheader for PAD open bypass day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day VS follow up) to be considered in the numerator. The date of the outcome on the 30 day VS follow up must be within 30 days of the procedure end date.

All discharges reported here have the Procedure Status marked "Elective" on the first PAD Open Bypass within the discharge.

## Myocardial Injury

From 8/19/2019 and prior the following definition was in place: The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Elective) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Elective".

Beginning 8/20/2019 and forward the definition will be:

Numerator: The number of Elective Open Bypass / Revascularization discharges which meet at least one the following criteria

1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia
2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication
3. Outcomes Post Procedure, Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
4. 30 Day Follow-up MI = Yes.
5. The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of Elective Open Bypass / Revascularization discharges which meet one of the following criteria:

1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia OR
2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.

## Graft Failure

---

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Elective) with "yes" indicated for Stent/Graft Thrombosis as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges "no" selected for Open Bypass Patent on the 30 day follow-up.

The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Elective".

---

### **Bleeding (>= 4 units PRBCs)**

---

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Elective) in which "yes" is indicated for transfusion/PRBCs and the # of packed red blood cells >= 4 as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Elective".

---

### **Major Amputation**

---

The numerator is the number of discharges containing an Elective PAD Open Bypass procedure which meet the following criteria:

- Under Outcomes Post Procedure: Amputation = yes AND the options of foot amputation, AKA, BKA, OR hip disarticulation are marked AND the amputation is on the SAME side as the Graft Insertion.
- The date of the amputation is within 30 days of the procedure end date.

- OR -

- Under 30 Day VS Follow-up: Amputation = yes AND the options of foot amputation, AKA, BKA, OR hip disarticulation are marked AND the amputation is on the SAME side as the Graft Insertion.
- The date of the amputation is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an Elective PAD Open Bypass procedure.

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### **Readmission (Procedure end to 30 days)**

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The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Elective) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of the Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Elective".

---

### **Urgent/Emergent Bypass**

---

The numerator is the number of discharges containing a PAD Open Bypass procedure with the Procedure Status marked "Urgent" or "Emergent". The denominator is the total number of discharges containing a PAD Open Bypass procedure.

In discharges with multiple procedures of the same type, the first procedure will be used to determine "Procedure Status".

---

### **Death (Procedure end to 30 days)**

---

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Death as an Outcome in Lab or as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "Dead" indicated as Current Living Status on the 30 day follow-up. The denominator is the total number of discharges containing a PAD open bypass with the Procedure status marker "Urgent or Emergent".

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### **Major Morbidity (Procedure end to 30 days)**

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Subheader for PAD open bypass day major morbidity. In all reported morbidity, the date of the outcome must be within 30 days of the procedure end date (or reported on 30 day follow up) to be considered in the numerator.

All discharges reported here have the Procedure Status marked "Urgent" or "Emergent" on the first PAD Open Bypass within the discharge.

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## Myocardial Injury

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Myocardial Infarction (MI) as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges with "yes" indicated for MI on the 30 day follow-up. The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Urgent" or "Emergent".

Beginning 8/20/2019 and forward the definition will be:

Numerator: The number of Urgent or Emergent Open Bypass / Revascularization discharges which meet at least one of the following criteria:

1. Procedure Information:
  1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia
  2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.
2. Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
3. 30 Day Follow-up MI = Yes
4. The Outcomes Post Procedure Myocardial Injury and the 30 Day Follow-up MI are within 30 days of the procedure end date.

Denominator: The total number of Urgent or emergent Open Bypass / Revascularization discharges which meet one of the the following criteria:

1. Procedure Information:
  1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia OR
  2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.

---

## Graft Failure

---

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Stent/Graft Thrombosis as an Outcome Post Procedure (within 30 days of the procedure end date). It also includes discharges "no" selected for Open Bypass Patent on the 30 day follow-up. The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Urgent" or "Emergent".

---

## Bleeding (>= 4 units PRBCs)

---

The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Urgent/Emergent) in which "yes" is indicated for transfusion/PRBCs and the # of packed red blood cells >= 4 as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Urgent" or "Emergent".

---

## Major Amputation

---

The numerator is the number of discharges containing an Urgent or Emergent PAD Open Bypass procedure which meet the following criteria:

- Under Outcomes Post Procedure: Amputation = yes AND the options of foot amputation, AKA, BKA, OR hip disarticulation are marked AND the amputation is on the SAME side as the Graft Insertion.
- The date of the amputation is within 30 days of the procedure end date.

- OR -

- Under 30 Day VS Follow-up: Amputation = yes AND the options of foot amputation, AKA, BKA, OR hip disarticulation are marked AND the amputation is on the SAME side as the Graft Insertion.
- The date of the amputation is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an Urgent or Emergent PAD Open Bypass procedure.

---

## Readmission (Procedure end to 30 days)

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The numerator is the number of discharges containing a PAD open bypass procedure (Procedure Status = Urgent/Emergent) with "yes" indicated for Readmission to Hospital (for any reason) on the 30 day VS follow-up. The date of the Readmission to Hospital is within 30 days of the procedure end date.

The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Urgent" or "Emergent".

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## Wound Complication (PAD OBP)

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(Reported for PAD OBP only) - The denominator for this category is PAD open bypass, defined as all open bypass procedures, excluding those with "Graft Origin" at any of the following locations; Celiac, Inferior Mesenteric, Brachial (Right or Left), Common Carotid (Right or Left), Pulmonary (Right or Left), Radial (Right or Left), Renal (Right or Left), or Superior Mesenteric

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## Wound Complication Rate (Overall)

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The numerator is the number of discharges containing a PAD Open Bypass procedure with "Infection/Sepsis" marked "yes" (either Graft infection or Wound site selected) as an outcome post procedure (for any procedure within a discharge) within 30 days of the procedure end date. The numerator also includes discharges with "Readmission to hospital" marked yes (either Wound infection/dehiscence, Lymph Leak or Graft infection selected) or Wound Complication marked "yes" on the 30 day VS follow-up. The date of the Readmission to Hospital or Wound Complication is within 30 days of the procedure end date.

The denominator is the number of discharges containing a PAD open bypass procedure.

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## Wound Complication Rate (Elective)

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The numerator is the number of discharges containing an Elective PAD Open Bypass procedure with "Infection/Sepsis" marked "yes" (either Graft infection or Wound site selected) under Outcomes Post Procedure (for any procedure within a discharge) within 30 days of the procedure date. The numerator also includes discharges with "Readmission to hospital" marked yes (either Wound infection/dehiscence, Lymph Leak, or Graft infection selected) or Wound Complication marked "yes" on the 30 day VS follow-up. The date of the Readmission to Hospital or Wound Complication is within 30 days of the procedure end date.

The denominator is the total number of discharges containing an Elective PAD open bypass procedure.

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## Wound Complication Rate (Urgent/Emergent)

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The numerator is the number of discharges containing a, Urgent or Emergent PAD Open Bypass procedure with "Infection/Sepsis" marked "yes" (either Graft infection or Wound site selected) as an outcome post procedure (for any procedure within a discharge) within 30 days of the procedure date. The numerator also includes discharges with "Readmission to hospital" marked yes (either Wound infection/dehiscence, Lymph Leak, or Graft infection selected) or Wound Complication marked "yes" on the 30 day VS follow-up. The date of the Readmission to Hospital or Wound Complication is within 30 days of the procedure end date.

The denominator is the total number of discharges containing a PAD open bypass procedure with the Procedure Status marked "Urgent" or "Emergent".

---

## Average Age (mean, stdev)

---

Calculates the average (mean) age of discharges containing a PAD open bypass procedure. This is calculated using the age as of the admission date.

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## Obesity

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The numerator is the number of discharges containing a PAD open bypass procedure with a BMI > 30. The denominator is the number of discharges containing a PAD open bypass procedure.

\* BMI is defined as the patient's weight in kilograms divided by the square of the patient's height in meters. Note that height is currently captured in centimeters.

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## Diabetes

---

The numerator is the number of discharges containing a PAD open bypass procedure in which the patient is marked as having diabetes (with any type of therapy). The denominator is the number of discharges containing a PAD open bypass procedure.

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## Procedure Variables

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Subheader for the procedure specific variables within OBP.

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## Indications

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Subheader for OBP procedure indications.

Note: A discharge may contain more than one procedure. Each procedure can have more than one indication marked.

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## Claudication Only

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The numerator is the number of PAD open bypass procedures with claudication marked as an indication. The denominator is the total number of PAD open bypass procedures.

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## Rest Pain

---

The numerator is the number of PAD open bypass procedures with rest pain marked as an indication. The denominator is the total number of PAD open bypass procedures.

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## Tissue Loss

---

The numerator is the number of PAD open bypass procedures with Ulcer/Gangrene or Wound (WIFI) marked yes as an indication. The denominator is the total number of PAD open bypass procedures.

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## Redo Procedure

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The numerator is the number of PAD open bypass procedures with "yes" marked for Redo Procedure. The denominator is the total number of PAD open bypass procedures.

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## Skin Prep Type

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Subheader for skin prep type used in PAD OBP procedures.

Note: A procedure may have more than one prep type marked.

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## Iodine based

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The numerator is the number of PAD open bypass procedures with "Iodine" or "Iodine and alcohol" marked under Skin Preparation. The denominator is the total number of PAD open bypass procedures.

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## Chlorhexidine based

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The numerator is the number of PAD open bypass procedures with "Chlorhexidine" or "Chlorhexidine and alcohol" marked under Skin Preparation. The denominator is the total number of PAD open bypass procedures.

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## Chlorhexidine and Iodine

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The numerator is the number of PAD open bypass procedures with "Chlorhexidine and Iodine" marked under Skin Preparation. The denominator is the total number of PAD open bypass procedures.

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## Temperature (< 36 deg)

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The numerator is the number of PAD open bypass procedure with a Nadir body temperature value < 36 degrees. The denominator is the total number of PAD open bypass procedures.

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## Glucose (> 180)

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The numerator is the number of PAD open bypass procedure with a Glucose (peak) value >180. The denominator is the total number of PAD open bypass procedures.

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## Wound Closure

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Subheader for wound closure type in PAD OBP procedures.

Note: A procedure may have more than one wound closure marked.

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### **Staples**

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The numerator is the number of PAD open bypass procedures with “Staples” marked under Closure for Open Exposure. The denominator is the total number of PAD open bypass procedures.

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### **Suture (absorbable)**

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The numerator is the number of PAD open bypass procedures with “Suture (absorbable)” marked under Closure for Open Exposure. The denominator is the total number of PAD open bypass procedures.

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### **Suture (permanent)**

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The numerator is the number of PAD open bypass procedures with “Suture (permanent)” marked under Closure for Open Exposure. The denominator is the total number of PAD open bypass procedures.

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## Post-Op Myocardial Injury (Procedure end to 30 Days, all VS procedures)

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This section of the reports includes all VS procedure types (EVAR, OAAA, OBP, CAS, CEA).

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### Myocardial Injury Rate (Overall)

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing a vascular surgery of any type (EVAR, OAAA, OBP, CAS, CEA) with MI marked "yes" as an outcome post procedure (for any procedure within a discharge) within 30 days of the procedure end date. It also includes discharges with MI marked "yes" on the 30 day follow-up. The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP, CAS, CEA) of any type.

From 8/20/2019 and forward the definition will be:

Numerator: The number of Elective, Urgent or Emergent CAS, CEA, ORB, OAA and EVAR discharges that meet the following criteria:

- Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
- The date of the Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.

OR

- 30 Day Follow-up MI = Yes
- The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of CAS, CEA, ORB, OAA and EVAR discharges that are marked Elective, Urgent OR Emergent.

---

### Myocardial Injury Rate (Elective)

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From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing a vascular surgery of any type (EVAR, OAAA, OBP, CAS, CEA) with the first Procedure Status marked "Elective" and MI marked "yes" as an outcome post procedure (for any procedure within a discharge) within 30 days of the procedure end date. It also includes discharges with MI marked "yes" on the 30 day follow-up. The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP, CAS, CEA) of any type and the first Procedure Status marked "Elective".

From 8/20/2019 and forward the definition will be:

Numerator: The number of Elective CAS, CEA, ORB, OAA and EVAR discharges which meet the following criteria:

- Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
- The date of the outcomes post procedure myocardial injury is within 30 days of the procedure end date.

OR

- 30 Day Follow-up MI = Yes
- The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of CAS, CEA, ORB, OAA and EVAR discharges that are marked Elective.

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### Myocardial Injury Rate (Urgent/Emergent)

---

From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing a vascular surgery of any type (EVAR, OAAA, OBP, CAS, CEA) with the first Procedure Status marked "Urgent" or "Emergent" and MI marked "yes" as an outcome post procedure (for any procedure within a discharge) within 30 days of the procedure end date. It also includes discharges with MI marked "yes" on the 30 day follow-up. The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP, CAS, CEA) of any type and the first Procedure Status marked "Urgent" or "Emergent".

Starting 8/20/2019 and forward the definition will be:

Numerator: The number of Urgent or Emergent CAS, CEA, ORB, OAA and EVAR discharges which meet the following criteria:

- Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
- The date of the Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.

OR

- 30 Day Follow-up MI = Yes
- The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of CAS, CEA, ORB, OAA and EVAR discharges that are marked Urgent OR Emergent.

## Procedure Type

Subheader for the breakdown of MI rate for each procedure type.

### PAD/Open Bypass

From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an open bypass procedure in which “yes” is marked for MI as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). It also includes discharges with MI marked “yes” on the 30 day follow-up. The denominator is the total number of discharges with a PAD open bypass procedure.

Beginning 8/20/2019 and forward the definition will be:

Numerator: The number of Elective, Urgent or Emergent Open Bypass/ Revascularization discharges which meet at least one of the following criteria:

1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia
2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.
3. Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
4. The date of the Post Procedure Myocardial Injury is within 30 days of the procedure end date.

- OR -

1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia
2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.
3. 30 Day Follow-up MI = Yes
4. The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of Elective, Urgent or Emergent Open Bypass/ Revascularization discharges which meet the following criteria:

1. Indication Type = Lower Extremity Revascularization AND Claudication, Rest Pain and/or Acute Limb Ischemia OR
2. Indication Type = Upper Extremity Revascularization AND Acute Limb Ischemia and/or Arm Claudication.

### AAA

From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing an EVAR or OAAA procedure in which “yes” is marked for MI as an outcome post procedure in any procedure within that discharge (within 30 days of the procedure end date). It also includes discharges with MI marked “yes” on the 30 day follow-up. The denominator is the total number of discharges with an EVAR or AAA procedure.

Starting 8/20/2019 and forward the definition will be:

Numerator: The number of Elective, Urgent or Emergent OAAA and EVAR discharges which meet the following criteria:

- Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
- The date of the Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.

OR

- 30 Day Follow-up MI = Yes
- The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of OAAA and EVAR discharges that are marked Elective, Urgent or Emergent.

### CVOD



From 8/19/2019 and prior the following definition was in place. The numerator is the number of discharges containing a CEA or CAS procedure in which “yes” is marked for MI as an outcome post procedure in any procedure within that discharge. It also includes discharges with MI marked “yes” on the 30 day follow-up. The denominator is the total number of discharges with a CAS or CEA procedure.

Starting 8/20/2019 and forward the definition will be:

Numerator: The number of Elective, Urgent OR Emergent CEA and CAS discharges which meet at least one of the following criteria:

- Outcomes Post Procedure Myocardial Injury = Yes AND STEMI or NSTEMI are marked.
- The date of the Outcomes Post Procedure Myocardial Injury is within 30 days of the procedure end date.
- 

OR

- 30 Day Follow-up MI = Yes
- The date of the 30 Day Follow-up MI is within 30 days of the procedure end date.

Denominator: The total number of CAS and CEA discharges that are marked Elective, Urgent OR Emergent.

## Average Age (mean, stdev)

Calculates the average (mean) age of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). This is calculated using the age as of the admission date.

## Diabetes

The numerator is the number of discharges containing any VS procedure in which the patient is marked as having diabetes (with any type of therapy). The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA).

## Pre-op Stress Test

The numerator is the number of discharges with “yes” marked for “Cardiac Stress Test” (selection of normal or abnormal is not calculated) on the first VS procedure within the discharge. The denominator is the total number of discharges containing an EVAR, OAAA, or OBP procedure.

Note: CAS and CEA are excluded because Cardiac Stress Test is not a field for those procedure types.

## Cardioprotective Medications

Subheader for pre-procedure cardioprotective medications for all VS procedure types.

### Aspirin

The numerator is the number of discharges with Aspirin marked “Given” for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission will be excluded.

### Clopidogrel (Plavix)

The numerator is the number of discharges with Clopidogrel (Plavix) marked “Given” for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission will be excluded.

### ASA & Clopidogrel

The numerator is the number of discharges with both Aspirin AND Clopidogrel (Plavix) marked “Given” for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission to either medication will be excluded.

### Statin

The numerator is the number of discharges with Statin marked "Given" for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission will be excluded.

---

## Beta Blocker

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The numerator is the number of discharges with Aspirin marked "Given" for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission will be excluded.

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## ACE-Inhibitor

---

The numerator is the number of discharges with Aspirin marked "Given" for medications on admission. The denominator is the number of discharges containing any VS procedure (EVAR, OAAA, OBP, CAS, CEA). Patients marked as contraindicated at admission will be excluded.

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## Pre Procedure BNP >100 pg/mL

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The numerator is the number of Elective, Urgent or Emergent CAS, CEA, ORB, OAA and EVAR discharges that have a Pre Procedure BNP level >100 pg/mL.

The denominator is the number of Elective, Urgent or Emergent CAS, CEA, ORB, OAA and EVAR discharges.

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## Post-operative HgB <= 8.0

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Subheader for post-operative hemoglobin.

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## All Discharges

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The numerator is the number of discharges in which the patient has a post-procedure hemoglobin  $\leq 8.0$ , as measured by the lowest nadir hemoglobin (recorded for any procedure, regardless of type). The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP, CEA, CAS) of any type.

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## Discharges with Myocardial Injury $\leq 8.0$

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The numerator is the number of discharges which contains the following criteria:

- Under Labs Post Procedure the value entered for Nadir Hemoglobin is  $\leq 8.0$  (recorded for any procedure, regardless of type)

and

- Under Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI is marked.
- The date of the Myocardial Injury is within 30 days of the procedure end date.

The denominator is the total number of discharges where Outcomes Post Procedure: Myocardial Injury = Yes AND STEMI or NSTEMI is marked.

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## Transfusion (Procedure end to 30 days)

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Header for the categories within Transfusion. Reported for EVAR, PAD Open Bypass, and Open AAA.

Note: This report page excludes ruptured AAA for EVAR and OAAA procedures.

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### Transfusion Rate (Overall)

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The numerator is the number of discharges containing a EVAR, OAAA, or OBP procedure that meet the following criteria:

- Under Procedure Details: Ruptured AAA = No for EVAR and OAAA.
- Under Outcomes Post Procedure: Transfusion = yes AND PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

OR

- Under 30-Day Follow-up: Transfusion = Yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date.

The denominator is the number of discharges containing a EVAR, OAAA or OBP procedure. Ruptured AAA = No for EVAR and OAAA.

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### Transfusion Rate (Elective)

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The numerator is the number of discharges containing an Elective EVAR, OAAA, or OBP procedure that meet the following criteria:

- Under Outcomes Post Procedure: Transfusion = yes AND PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

OR

- Under 30-Day Follow-up: Transfusion = Yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date.

The denominator is the number of discharges containing an Elective EVAR, OAAA or OBP procedure. .

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### Transfusion Rate (Urgent/Emergent)

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The numerator is the number of discharges containing a EVAR, OAAA, or OBP procedure with the first Procedure Status marked "Urgent" or "Emergent" that meets the following criteria:

- Under Procedure Details: Ruptured AAA = No for EVAR and OAAA.
- Under Outcomes Post Procedure: Transfusion = Yes and PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

- OR -

- Under 30-Day Follow-up: Transfusion = Yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date.

The denominator is the number of discharges containing a EVAR, OAAA, or OBP) procedure with the first Procedure Status marked "Urgent" or "Emergent". Ruptured AAA = No for EVAR and OAAA.

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## Procedure Type

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Subheader for the breakdown of transfusion rate for each procedure type.

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### Open Bypass

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The numerator is the number of discharges containing an open bypass procedure which meet the following criteria:

- Under Outcomes Post Procedure: Transfusion = yes and PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

- OR -

- Under 30-Day Follow-up: Transfusion = yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date

The denominator is the total number of discharges with an open bypass procedure.

## EVAR

The numerator is the number of discharges containing a EVAR procedure that meet the following criteria:

- Under Procedure Details: Ruptured AAA = No.
- Under Outcomes Post Procedure: Transfusion = yes AND PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

OR

- Under 30-Day Follow-up: Transfusion = Yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date.

The denominator is the total number of discharges with an EVAR procedure AND Ruptured AAA = No under Procedure Details

## Open AAA

The numerator is the number of discharges containing an OAAA procedure that meet the following criteria:

- Under Procedure Details: Ruptured AAA = No.
- Under Outcomes Post Procedure: Transfusion = yes AND PRBCs are marked.
- The date of the post procedure transfusion is within 30 days of the procedure end date.

OR

- Under 30-Day Follow-up: Transfusion = Yes.
- The date of the follow-up transfusion is within 30 days of the procedure end date.

The denominator is the total number of discharges with an open AAA procedure AND Ruptured AAA = No under Procedure Details.

## Pre-procedure Anemia

Subheader for pre-procedure anemia.

Anemia is measured by the World Health Organization definition; for men the threshold is 13, for women, it is 12.

Source <https://ada.com/hemoglobin-levels/#normal-hemoglobin-ranges-by-age>

## All discharges with anemia

The numerator is the number of discharges in which the patient has anemia pre-procedure, as measured by the pre-procedure hemoglobin (recorded for the first procedure, regardless of type). For men the pre procedure hemoglobin is 13 or less. For women the pre procedure hemoglobin is 12 or less. EVAR and OAAA procedures that have Ruptured AAA = Yes under Procedure Details will be excluded from the numerator.

The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP) of any type. EVAR and OAAA procedures that have Ruptured AAA = Yes under Procedure Details will be excluded from the denominator.

## Transfused discharges with anemia

The numerator is the number of discharges in which the patient has anemia pre-procedure, as measured by the pre-procedure hemoglobin (recorded for the first procedure, regardless of type) and has "yes" marked for transfusion (counts PRBCs only) as an outcome post procedure in any procedure (within 30 days of the procedure end date). EVAR and OAAA procedures that have Ruptured AAA = Yes under Procedure Details will be excluded from the numerator.

The denominator is the total number of discharges that have "yes" marked for transfusion (counts PRBCs only) as an outcome post procedure.. EVAR and OAAA procedures that have Ruptured AAA = Yes under Procedure Details will be excluded from the denominator.

## **Use of Lytic/Anticoagulant**

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Subheader for the details of lytic/anticoagulant use.

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### **All discharges with lytics**

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The numerator is the number of discharges in which the patient has heparin marked “post” procedure or lytics (Tissue Plasminogen Activator, Tenecteplase, Retavase) marked “during” or “post” procedure in any procedure. The denominator is the number of discharges containing a vascular surgery procedure (EVAR, OAAA, OBP) of any type.

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### **Discharges with lytics and transfusion**

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The numerator is the number of discharges in which the patient has heparin marked “post” procedure or lytics (Tissue Plasminogen Activator, Tenecteplase, Retavase) marked “during” or “post” procedure in any procedure AND has “yes” marked for transfusion (counts PRBCs only) as an outcome post procedure in any procedure (within 30 days of the procedure end date). The denominator is the total number of discharges with transfusion (see above).