HMS
MICHIGAN HOSPITAL
MEDICINE SAFETY CONSORTIUM

MIDLINE Data Definitions

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ENROLLMENT INFORMATION

1. HMS PARTICIPANT NUMBER
   Instructions: System generates the HMS participant number.

2. HOSPITAL
   Instructions: Hospital site is tied to abstractor login ID.

3. HOSPITAL DETERMINED PATIENT ID
   Instructions: This ID is determined by each hospital in order to track patient data.
   Note: Entries in to this field are not visible to the HMS Coordinating Center. Abstractors are able to search this field in addition to the HMS ID # in order to locate patient records.

DEMOGRAPHICS

1. DOB (mm/yyyy)
   Instructions: Record the patient's month and year of birth in the mm/yyyy format.

2. INSERTION LINE TYPE
   Instructions: Select the type of case to abstract
   - *"PICC"* if abstracting a PICC case
   - *"Midline"* if abstracting a midline case
     - Note 1: In order to qualify as a Midline for the purposes of this project the Midline must be inserted into one of the veins of the arm and the tip dwelling within or distal to the subclavian vein. Midlines are typically 6cm-25cm in length.
     - Note 2: Extended-dwell peripheral IVs inserted in the arm, above the wrist, can be included as Midlines for the purposes of this project. Include: BARD Accucath device.

3. PATIENT'S GENDER IDENTITY
   Instructions: Review the medical record to determine the patient's gender identity
   - *"Female"* if the patient identifies as a female.
   - *"Male"* if the patient identifies as a male.
   - *"Transgender Women/Transgender Female"* if the patient identifies as a transgender women or transgender female.
   - *"Transgender Man/Transgender Male"* if the patient identifies as a transgender man or transgender male.
   - "*Other (e.g. non-binary, genderqueer, gender-diverse, or gender fluid)"* if the patient identifies as non-binary, genderqueer, gender-diverse or gender fluid.

- *"Choose not to disclose"* if the patient chooses not to disclose the gender they identify as.
- *"Unknown"* if the medical record is silent as to which gender the patient identifies as.

4. SEX ASSIGNED AT BIRTH

Instructions: Review the medical record to determine the gender of the patient.
Select one of the following:

- *"Male"* if the patient is a man.
- *"Female"* if the patient is a woman.
- *"Unknown"* if the patient's gender is unknown.

5. ETHNICITY

Instructions: Review the medical record to determine the patient's ethnicity.
Select one of the following:

- *"Hispanic or Latino"* if patient demographic information indicates patient is of Hispanic descent. The US Census Bureau states that "People who identify their origin as Spanish, Hispanic, or Latino may be of any race."
- *"Non-Hispanic or Latino"* if patient demographic information indicates patient is not of Hispanic descent.
- "Unknown" if ethnicity is not reported in the medical record.

6. RACE

Instructions: Review the medical record to determine the patient's race.
Select one of the following:

- *"American Indian or Alaskan Native"* if patient demographic information indicates patient is Native American, American Indian, or Alaska Native.
- *"Arab and Chaldean Ancestries"* if patient demographic information indicates patient is Arab or Chaldean.
- *"Asian"* if patient demographic information indicates Asian.
- *"Black or African American"* if patient demographic information indicates patient is black or African American.
- *"Native Hawaiian or Pacific Islander"* if patient demographic information indicates patient is Native Hawaiian or Pacific Islander.
- *"White or Caucasian"* if patient demographic information indicates patient is white or Caucasian.
- *"Other"* if patient demographic information indicates the patient is a race other than what is listed above.
- *"Unknown"* if patient's race is not indicated in the medical record.

7. INSURANCE PAYER

Instructions: Review the medical record to determine the patient's primary insurance. The patient may have multiple insurers, so be sure to select only the primary insurance.
Note: The coordinating center has provided a reference on Zendesk to guide your selection for insurance documentation.
Select one of the following:

- *"BCBSM Michigan"*
  INCLUDE: Examples include (but not limited to): Healthy Blue Outcomes, Simply Blue HRA; Simply Blue HSA; Blue Cross Complete (Livingston, Washtenaw, Wayne counties); MIChild; Community Blue.
- *"BCN Michigan"*
  INCLUDE: Example include (but not limited to): Healthy Blue Living; Healthy Blue Living Rewards; Healthy Blue HMO HRA; Blue Care Network HMO HRA; BCN Advantage HMO-POS; Blue Elect Plus; BCN HMO; Blue Essentials.
- *"Commercial- HMO"*
  INCLUDE: Example include (but not limited to): HAP
- *"Medicaid- HMO"* if Medicaid is the primary insurance for this hospitalization.
  INCLUDE: ProCare Health Plan
- *"Medicaid- Straight"*
- *"Medicare- All"*
  INCLUDE: Example include (but not limited to): Aetna Medicare Advantage Health Plus MedicarePlus Advantage PPO
- *"Medicare Advantage- BCBSM"*
  INCLUDE: Example include (but not limited to): Medicare Plus Blue PPO: Essential, Vitality, Signature, Assure Prescription Blue PDP; Legacy Medigap
- *"Medicare Advantage- BCN"*
  INCLUDE: Example include (but not limited to): HMO-POS options: Elements, Basic, Classic, Prestige HMO option: Focus (Wayne county only)
  Group options: The UAW Retiree Medical Benefits Trust- URMBT Hourly Retirees: Chrysler, Ford, GM; Michigan Public School Employees Retirement System
  My Blue Medigap plan
- *"No Insurance/ Self Pay"*
  INCLUDE: If the patient has no insurance/ self-pay.
- *"Other Payer- Government"*
  INCLUDE: Examples include (but not limited to): HAP Senior Plus, VA (Veteran's Affairs) Health Care Benefits, Tricare, Indian Health Services (IHS)
- *"Other Payer- Michigan and Outstate"*
  INCLUDE: Examples include (but not limited to): Priority Health, Aetna, Humana

8. ZIP CODE

Instructions: Review the medical record to determine the zip code of the patient's primary residence.

Note 1: This zip code must be 9 digits in length. Please enter the 9-digit zip code whenever possible. If you are unable to locate a 9-digit zip code, please add four zeroes after the first 5 digits of the zip code. Example: 48109 should be entered as 481090000 if you are unable to locate the 9-digit zip code for this patient.

Note 2: This is a required field and the form cannot be submitted without an entry in this field.

Note 3: If the zip code is unknown or the patient is homeless, please enter "999990000".”

9. STATUS

Instructions: Indicate the status of the case being abstracted. This question refers to the status of the HMS record and not the status of the patient.

Select one of the following:

- *"Active"* if you are actively entering information in to the patient's HMS record, or are waiting to enter follow-up information.
- *"Completed"* if the patient's HMS record is complete and you do not anticipate entering additional information.

10. PATIENT STATUS

Instructions: The patient status indicates whether the case being abstracted is eligible or ineligible at the time of enrollment (i.e. the time at which the baseline medical record review begins). The patient status should be set as eligible (as your sampling strategy and case list should lead you to eligible cases); however, there may be an instance when you find information during abstraction that indicates the case should really be ineligible (i.e. the patient is found to be pregnant, under the age of 18, admitted for palliative care, or patient admitted to a surgical service). If a case if found to be ineligible once you have already started to abstract data, simply return to this section and mark the case as ineligible. This is a very important step, as the patient status determines whether or not the case is included for data analysis.

Select one of the following:

- *“Eligible”* if the patient is admitted to a medicine service , including Medical ICUs, (Day #1/day# 2 of inpatient hospitalization) has a Midline vascular access device placed/inserted during the hospitalization. In order to qualify as a Midline for the purposes of this project, the Midline must be inserted into one of the veins of the arm with the tip dwelling within or distal to the subclavian vein.. The line must have been documented to be a Midline.

Note 1: Midline insertions on the day of the medicine admission or the day prior to medicine admission are eligible. For example, a Midline inserted in advance of a planned admission such as in the Emergency Department or Observation Unit prior to the inpatient admission are eligible for abstraction.
EXCLUDE: Midlines placed at an outside hospital. Midlines are not eligible for abstraction if they were placed at an outside institution.
Note 2: Midlines that were never utilized or functional are not eligible for abstraction.

- *"Ineligible – Index line is an exchange"* if the index line is an exchange line.
- *"Ineligible - Patient was pregnant"* if the patient is pregnant at the time of enrollment.
- *"Ineligible - Patient under the age of 18"* if the patient is under the age of eighteen (18) at the time of enrollment.
- *"Ineligible - Patient admitted for palliative care"* if the patient is admitted for palliative care.
- *"Ineligible - Patient admitted to a surgical service"* if the patient was admitted to a surgical service. Note: Patients that are admitted to a medical service then have surgery during the hospitalization when the Midline of interest was placed may be included if they do not meet any of the other exclusion criteria.
  Note: Patients admitted to an inpatient medical service after ambulatory surgery may be included if they do not meet any of the other exclusion criteria.
- *"Ineligible - Presence of Left Ventricular Assist Device (LVAD)"* if the patient has an existing LVAD present at the time of Midline placement, an LVAD is implanted during Day 1-14 post Midline placement, or documentation in the medical record that states an LVAD implant is planned during the current hospitalization. (Examples include: Impella Device)
- *"Unable to finish abstraction"* if the case is eligible but abstraction was unable to be and will not be completed.

11. LEGACY PICC HMS ID

Instructions: You should leave this field blank.
Note: PICC and Midline cases should be entered under separate HMS IDs

12. CHANGE LOG MESSAGE

Instructions: Whenever a change is made to an HMS patient record after it has been created and saved, provide a written explanation of the change in the available text box.
Note: A written explanation is required to save any changes made to the record.

Baseline (Midline)

Midline Catheter Placement

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

1. **DATE OF INDEX PLACEMENT**

Instructions: Review the medical record to determine the date that the midline catheter of interest was placed. Indicate the date of placement in the MM/DD/YYYY format.

Note: Be sure to indicate the date of initial midline placement, and not the date the midline was ordered.

2. **THIS IS SUCCESSFUL MIDLINE #_____ON THIS DATE.**

Instructions: Review the medical record to determine which Midline is entered that corresponds to the date of index placement.

Note 1: The default will always be one; however, if this is the second Midline inserted on the same date indicated above then you must manually change the entry using the drop down box.

Note 2: Only enter Midline that were entered into the HMS database. Example, if an individual at your institution had two Midlines inserted on the same date and only one of these resulted in entry into the Midline database you would indicate this as Midline #1. If both Midlines were entered into the HMS database, then the first would be Midline #1 and the second would be Midline #2.

Select one of the following:

- *"1"* if the Midline indicated above is the first Midline inserted on the date indicated above. Note: This is the default answer.
- *"2"* if the Midline indicated above is the second Midline inserted on the date indicated above.

- *"3"* if the Midline indicated above is the third Midline inserted on the date indicated above.
- *"4"* if the Midline indicated above is the fourth Midline inserted on the date indicated above.
- *"5"* if the Midline indicated above is the fifth Midline inserted on the date indicated above.

3. **WAS <u>WRITTEN</u> INFORMED CONSENT OBTAINED FROM THE PATIENT (OR THEIR LEGALLY AUTHORIZED REPRESENTATIVE) PRIOR TO THE INSERTION OF THE MIDLINE?**

Instructions: Review the medical record to determine if written informed consent was obtained from the patient (or their legally authorized representative) prior to the insertion of the Midline.
<u>EXCLUDE:</u> verbal consent, general admission consents
Select one of the following:

- *"Yes"* if the medical record indicates written informed consent was obtained from the patient (or their legally authorized representative) prior to the insertion of the midline.
- *"No"* if the medical record does not indicate written informed consent was obtained from the patient (or their legally authorized representative) prior to the insertion of the midline.
- "*Unknown*" if the medical record is silent as to whether written informed consent was obtained from the patient (or their legally authorized representative) prior rot the insertion of the midline.

4. **PRIOR TO THE DATE OF THIS INDEX MIDLINE INSERTION, DID THE PATIENT HAVE A PICC OR CVC PLACED IN THE PAST 3 MONTHS?**

Instructions: Review the medical record to determine if the patient had a PICC or CVC placed within the past 3 months. A central line is one that terminates in a central vein or enters a central vein (femoral, axillary, or subclavian). There are three (3) options for this question.
<u>*Note 1*</u>: If a Mediport is both placed and accessed in the past 3 months, these should be entered as separate CVC insertions. Each documented Mediport access in the past 3 months should be captured separately.
<u>*Note 2:*</u> If you are unable to determine the date of placement of a previous PICC or CVC in the past 6 months and it was not placed during the index encounter, please exclude.

INCLUDE: Non-tunneled, tunneled, peripherally inserted, or implanted central venous catheters (CVCs). Some examples include: Arrow, Broviac, Cannon Arrow, CL-20, Cook catheter, Groshong, Hickman, Hohn, Infusaport, Kendal Palindrome, Neostar, PermaCath, Pro-line, R-Port, Quinton, S-Port Vas Cath, Mediport insertion, Mediport that has been accessed (including accessed for flushes), Single Lumen Infusion Catheter (SLIC), and ICY Intravascular Heat Exchange Catheter (ICY Catheter).
EXCLUDE: AV Fistulas, peripheral External Jugular (EJ)IV or peripheral Internal Jugular (IJ) IV, midline catheters (some examples include: Power Glide), interosseous lines (IO), arterial catheters, Swan Ganz catheters, Temporary Transvenous Pacemaker, Permacath exchange, femoral sheaths and central lines placed and removed within one day, this includes femoral catheters placed for procedures (for example – cardiac procedures such as angiography, angiography, angioplasty, EPS, pacemaker placement), and Mediport catheters that are not accessed. Unsuccessful attempts to place a PICC prior to placement of the Midline of interest.
Select one of the following:

- *"Yes"* if the medical indicates that the patient had a PICC or CVC placed within the past 3 months. ***Answer questions 4.1 through 4.3***
- *"No"* if the medical record does not indicate that the patient had a PICC or CVC placed within the past 3 months.
- "*Unknown*" if the medical record is silent as to whether the patient had a prior PICC or CVC placed within the past 3 months.

4.1. DATE OF INSERTION

Instructions: Review the medical record to determine the date that the prior PICC or CVC was placed (within the past 3 months). Indicate the date of placement in the MM/DD/YYYY format. If only the month and year of placement is known, enter the midpoint between the first day and last day of that month, as the day of insertion. If you are unable to determine the date of insertion of a previous PICC or CVC, please contact the Coordinating Center for assistance.

4.2. INDICATE THE TYPE OF CENTRAL VENOUS CATHETER

Instructions: Review the medical record to determine the type of CVC that was placed within the last 3 months.
Select one of the following:

- *"PICC"* if the medical indicates that the patient had a PICC placed within the past 3 months.

- *"CVC"* if the medical indicates that the patient had a CVC placed within the past 3 months.
- *"Unknown"* if the medical record is silent as to whether the type of central venous catheter is a PICC or CVC placed within the past 3 months.

4.3. DID THE PATIENT HAVE AN ADDITIONAL PRIOR PICC OR CVC INSERTION IN THE PAST 3 MONTHS?

Instructions: Review the medical record to determine if the patient had an additional prior PICC or CVC insertion within the past 3 months.
Note: This question repeats for up to 10 prior PICC or CVC insertions within the past 3 months.
Select one of the following:

- *"Yes"* if the medical indicates that the patient had an additional PICC or CVC placed within the past 3 months.
- *"No"* if the medical record does not indicate that the patient had an additional PICC or CVC placed within the past 3 months.
- "*Unknown*" if the medical record is silent as to whether the patient had an additional prior PICC or CVC placed within the past 3 months.

5. DOCUMENTED INDICATION FOR INDEX PLACEMENT

Instructions: Review the medical record to determine the indication for Midline placement (i.e., the documented reason for why the Midline is being placed).
Note1: The indication for the index Midline placement must be documented in the Midline order, the interventional radiology note or vascular access note and must specifically state "Midline indication, Midline placed for, etc." If nothing is documented, select "Unknown".
Note2: If a PICC was originally ordered and a Midline was placed instead, you may use the indication documented for the PICC in the PICC order or vascular access note as the Documented Indication for Midline placement.
Select all that apply:

- *"Antibiotics (Intravenous)"* if the medical record indicates that the Midline of interest was placed for intravenous antibiotic therapy either home antibiotics or in hospital antibiotics.
  INCLUDE: Any documentation that the Midline was placed for intravenous antibiotic, antifungal or antiviral therapy. Commonly infused antibiotics and antivirals (but not limited to) are:
  Antibiotics
  - Ampicillin

- Azithromycin
- Bactrim
- Cefazolin
- Cefepime
- Cefoxitin
- Ceftriaxome
- Cefuroxime
- Ciprofloxacin
- Clindamycin
- Daptomycin
- Doxycycline
- Gentamicin
- Imipenem
- Levofloxacin
- Linezolid
- Meropenem
- Metronidazole
- Nafcillin
- Penicillin
- Piperacillin/Tazobactam (Zosyn)
- Polymyxin
- Rifampin
- Tigecycline
- Tobramycin,
- Vancomycin

Antivirals

- Acyclovir
- Ganciclovir

- *"Blood transfusion or Blood Products"* if the medical record indicates the Midline of was placed for administration of blood or blood products
  INCLUDE: Any documentation that the Midline was placed for transfusion of blood or blood products. Examples include but not limited to: whole blood, PRBC, plasma, platelets, Hemopure (HBOC-201).
- *"Chemotherapy"* if the medical record indicates that the Midline of interest was placed for administering chemotherapy.
  INCLUDE: Any documentation that the Midline was placed for chemotherapy administration. Commonly infused chemotherapy agents (but not limited to):
  Antimetabolites

- 5-fluorouracil (5-FU)
- 6-mercapto-purine (6-MP)
- Capecitabine (Xeloda®)
- Cladribine
- Clofarabine
- Cytarabine (Ara-C®)
- Floxuridine
- Fludarabine
- Gemcitabine (Gemzar®)
- Hydroxyurea
- Methotrexate
- Pemetrexed (Alimta®)
- Pentostatin
- Thioguanine

Chimeric antigen receptor (CAR) T cell (CART) Therapy

Epothilones

- ixabepilone (Ixempra®)

Nitrogen mustards

- chlorambucil,
- cyclophosphamide (Cytoxan®),
- ifosfamide
- mechlorethamine (nitrogen mustard)
- melphalan

Nitrosoureas

- Alkyl sulfonates:
- Busulfan
- lomustine.
- streptozocin, carmustine (BCNU)

Platinum drugs

- Carboplatin
- Cisplatin
- oxalaplatin

Taxanes

- docetaxel (Taxotere®)
- Estramustine (Emcyt®)
- Ixabepilone (Ixempra®)
- paclitaxel (Taxol®)
- vinblastine (Velban®)

- Vinca alkaloids:
- vincristine (Oncovin®)
- vinorelbine (Navelbine®)

Triazines

- altretamine (hexamethyl-melamine).
- dacarbazine (DTIC)
- Ethylenimines:
- temozolomide (Temodar®).
- Thiotepa

- *"Blood Draws"* if the medical record indicates that the Midline of interest was placed for blood draws (i.e., to withdraw blood for testing).
  INCLUDE: Any documentation that the Midline was placed due to inability to draw blood (i.e., blood draws, phlebotomy).
- *"Difficult Access"* if the medical record indicates that the Midline of interest was placed due to difficult intravenous (IV) access (i.e., to deliver therapies in the bloodstream).
  INCLUDE: Any documentation that the Midline was placed due to difficult IV access (poor peripheral venous access, need for reliable or long-term access, patient requiring frequent IV restarts)
- *"IV Fluids or Hydration"* if the medical record indicates that the Midline of interest was placed for administration of intravenous fluids and/or hydration.
- *"Multiple Incompatible Fluids"* if the medical record indicates that the Midline of interest was placed for multiple incompatible fluids. This should only be selected if this reason is specifically documented by the healthcare professional (MD, Vascular Access Nurse, IR, etc. in the order or insertion note).
  INCLUDE: Any documentation that the Midline was placed due to multiple infusions that are incompatible (i.e., fluids that cannot be administered at the same time).
- *"Parenteral Nutrition"* if the medical record indicates that the Midline of interest was placed for administration of parenteral nutrition (PN) and the patient received parenteral nutrition (PN) during the period of review.
  INCLUDE: Total parenteral nutrition (TPN), parenteral nutrition (PN), total nutrient admixture (TNA), lipid emulsion.
- *"Radiographic Study"* if the medical record indicates that the Midline of interest was placed for a radiographic study. An example may include placement for power injection of contrast medium for a planned radiologic exam.
  INCLUDE: Any documentation that the Midline was placed due to need for a radiographic study (i.e., PE Protocol).

- *"Other"* if the medical record indicates the Midline was placed for a reason not specified above. Please contact the HMS Coordinating Center for approval to use "Other".

  FOR OTHER, PLEASE SPECIFY

  Instructions: Free text the other reason specified for placement of the Midline of interest.

  INCLUDE: Patient Request, IVIG Infusion, Medication Delivery (if written as the indication in the order, radiology note, insertion note, or VAST note).
- *"Unknown"* if the medical record is silent as to the indication/reason the Midline of interest was placed.

6. **WHAT WAS THE PATIENT'S LEVEL OF CARE (PATIENT STATUS) AT THE TIME OF MIDLINE INSERTION?**

Instructions: Review the medical record to determine the patient's level of care (patient status) at the time of Midline placement.

Note: Determine patient status by the level of care the patient is ordered to receive at the time of Midline placement.

Choose one of the following answers:

- *"Outpatient"* if the medical record indicates that the patient was receiving medical care/services as an outpatient (not hospitalized) at the time of Midline placement.

  INCLUDE: Any documentation that the Midline was inserted either the day of or day before hospital admission while the patient was receiving medical care/services as an outpatient (such as a clinic).
- *"Emergency Room"* if the medical record indicates that the patient was receiving medical care/services in an emergency room at the time of Midline placement.

  INCLUDE: Any documentation that the Midline was inserted while the patient was receiving medical care/services in an emergency room (ER), emergency department (ED) or urgent care center directly associated with your hospital.

  EXCLUDE: Patient is physically present in the Emergency Room but has an order for admission to an Inpatient Medical Floor or Intensive Care Unit at the time of Midline placement.
- *"Observation Unit"* if the medical record indicates that the patient was receiving medical care/services in an observation unit at the time of Midline placement.

  INCLUDE: Any documentation that the Midline was inserted while the patient was receiving medical care/services in an observation unit as determined by patient status order.

- *"Intensive Care Unit"* if the medical record indicates that the patient was receiving medical care/services in an intensive care unit (ICU) at the time of Midline placement as determined by patient status order.
  INCLUDE: Any documentation that the Midline was inserted while the patient was receiving medical care/services in an ICU. The ICU classifications may include: Medical, Surgical, Cardiac, Neurologic, etc.
- *"Inpatient Medical Floor"* if the medical record indicates that the patient was receiving medical care/services in an inpatient setting that is not an Intensive Care Unit (ICU) at the time of Midline insertion as determined by patient status order.
  INCLUDE: Any documentation that the Midline was inserted while the patient was receiving care/services in an inpatient setting that is not in an intensive care unit (ICU).
- "*Unknown*" if the medical record is silent as to the type of medical care/services provided to the patient at the time of Midline placement.
  INCLUDE: If patient was in the Observation unit at the time of Midline placement, select "Unknown" and add a comment in the abstractor's note section stated that the Midline was placed while in the Observation unit.

7. **WERE THERE UNSUCCESSFUL ATTEMPTS TO PLACE A PICC LINE PRIOR TO THE INSERTION OF THIS MIDLINE?**

Instructions: Review the medical record to determine if there were unsuccessful attempts to place a PICC line prior to the insertion of the Midline of interest.
INCLUDE: Documented # of attempts, failed attempts (by same operator or different operator), passes, insertions, and attempts that were deemed successful; however, diagnostic confirmation showed incorrect positioning resulting in removal and a Midline needed to be inserted.

- "*Yes"* if the medical record indicates that there were unsuccessful attempts to place a PICC line prior to the insertion of the Midline of interest. ***Answer question 7.1.***
- *"No"* if the medical record does not indicate that there were unsuccessful attempts to place a PICC line prior to the insertion of the Midline of interest.
- *"Unknown"* if the medical record is silent as to whether there were attempts to place a PICC line prior to the insertion of the Midline of interest.

7.1. HOW MANY ATTEMPTS WERE MADE TO PLACE THE PICC?

Instructions: Review the medical record to determine the number of attempts there were to place a PICC line prior to the placement of the Midline of interest.

There are six (6) options for this question.
Select one of the following:

- *"1"* if there is documentation that there was one attempt to place a PICC line prior to the placement of the Midline of interest.
- *"2"* if there is documentation that there were two attempts to place a PICC line prior to the placement of the Midline of interest.
- *"3"* if there is documentation that there were three attempts to place a PICC line prior to the placement of the Midline of interest.
- *"4"* if there is documentation that there were four attempts to place a PICC line prior to the placement of the Midline of interest.
- *"5+"* if there is documentation that there were five or more attempts to place a PICC line prior to the placement of the Midline of interest.
- *"Multiple"* if there is documentation that there were multiple attempts to place a PICC line prior to the placement of the Midline of interest.
- *"Unknown"* if the medical record is silent as to the number of attempts to place a PICC line prior to the placement of the Midline of interest.

8. **NUMBER OF ATTEMPTS TO PLACE THE MIDLINE**

Instructions: Review the medical record to determine the number of insertion attempts (i.e., the number of tries) it took to place the Midline of interest successfully.

Note1: This may include attempts made in other extremities and/or different veins before successful placement. For example, one attempt in the right arm, second successful attempt in the left arm; would select 2.

Note2: For failed attempts, this may or may not be indicated in the Midline insertion note of the Midline of interest. For example, the vascular access team may have tried and failed which led to successful placement by interventional radiology. If the vascular access team tried once, this would count as 2 attempts for the successful Midline that was placed by interventional radiology.

INCLUDE: Documented # of attempts, failed attempts (by same operator or different operator), passes, insertions, and an attempt that was deemed successful, however, diagnostic confirmation showed incorrect positioning resulting in removal and a new Midline needed to be inserted.

EXCLUDE: Number of adjustments.

Select one of the following:

- *"1"* if the medical record indicates that the Midline was placed successfully on the first attempt.

- *"2"* if the medical record indicates that the Midline was placed successfully on the second attempt.
- *"3"* if the medical record indicates that the Midline was successfully in place after a third attempt
- *"4"* if the medical record indicates that the Midline was successfully in place after a fourth attempt.
- *"5+"* if the medical record indicates that the Midline was placed successfully on the fifth or greater attempt.
- *"Multiple"* if the medical record documentation states the Midline was placed successfully after "multiple" attempts.
- "*Unknown*" if the medical record is silent as to the number of attempts were taken to successfully place the MIDLINE line.

9. **WAS ULTRASOUND USED FOR INSERTION OF THE MIDLINE?**

Instructions: Review the medical record to determine if ultrasound guidance for peripheral venous access was used to place the Midline of interest.
Select one of the following:

- *"Yes"* if the medical record indicates ultrasound guidance was used to place the Midline of interest.
- *"No"* if the medical record does not indicate ultrasound guidance was used to place the Midline of interest.
- "*Unknown*" if the medical record is silent as to whether ultrasound guidance was used to place the Midline of interest.

10. **WAS LIDOCAINE USED FOR INSERTION OF THE MIDLINE?**

Instructions: Review the medical record to determine if lidocaine was used as the local anesthetic to place the Midline of interest. If lidocaine was not used, review the medical record to determine if another local anesthetic was to place the Midline of interest.
Select one of the following:

- *"Yes"* if the medical record indicates lidocaine was used to place the Midline of interest.
- *"No"* if the medical record does not indicate lidocaine nor another local anesthetic was used to place Midline of interest.
- "*Unknown*" if the medical record is silent as to whether lidocaine or another local anesthetic was used to place the Midline of interest.
- "*Other Analgesic*" if the medical record indicates lidocaine was not used as the local analgesic to place the Midline of interest, however a different local

anesthetic was used to place the Midline of interest.

FOR OTHER ANALGESIC, PLEASE SPECIFY.

Instructions: Free text the local anesthetic used to place the Midline of interest.

11. **WERE FULL DRAPES USED FOR INSERTION OF THE MIDLINE (DRAPES AROUND THE INSERTION SITE VERSUS ALL OVER THE BODY)?**

Instructions: Review the medical record to determine if full body drapes, coverage of the patient from chin to toe, were used for insertion of the Midline of interest.
Select one of the following:

- *"Yes"* if the medical indicates full body drapes were used for placement of the Midline of interest.
  INCLUDE: Examples include (but not limited to): documentation of max barrier drapes or full body fenestrated drapes used at time of Midline placement.
- *"No"* if the medical record does not indicate full body drapes were used for placement of the Midline of interest. For example, select "No" if the inserter used only a drape over the insertion site at the time of Midline placement.
- "*Unknown*" if the medical record is silent as to whether full body drapes were used for placement of the Midline of interest.

12. **EXTREMITY IN WHICH MIDLINE WAS PLACED**

Instructions: Review the medical record to determine the extremity (i.e., limb) in which the Midline of interest was placed.
Select one of the following:

- *"Right arm"* if the medical record indicates that the Midline was placed in the patient's right arm or right upper extremity (RUE).
  INCLUDE: Documentation that the Midline was placed in the right arm. Some veins of the right upper extremity include (but not limited to): right basilica, right cephalic, right axillary, right median, right brachial, etc.
- *"Left arm"* if the medical record indicates that the Midline was placed in the patient's left arm or left upper extremity (LUE).
  INCLUDE: Documentation that the Midline was placed in the left arm. Some veins of the left upper extremity include (but not limited to): left basilica, left cephalic, left axillary, left median, left brachial, etc.
- *"Unknown"* if the medical record is silent as to the extremity in which the Midline was placed.

13. **INSERTION LOCATION IN WHICH MIDLINE WAS PLACED**

Instructions: Review the medical record to determine the insertion location in which the Midline of interest was placed.
Select one of the following:

- *"Antecubital Fossa"* if the medical record indicates the Midline was placed in the patient's antecubital fossa (ACF).
- "Forearm" if the medical record indicates the Midline was placed in the patient's forearm.
  INCLUDE: documentation of Midline insertion in the lower arm
- *"Upper Arm"* if the medical record indicates the Midline was placed in the patient's upper arm.
- *"Other"* if the medical record indicates the Midline was place in a location not listed above.
  FOR OTHER, PLEASE SPECIFY THE INSERTION LOCATION
  Instructions: Free text the insertion location in which the Midline was placed.
- *Unknown"* if the medical record is silent as to the location in which the Midline was placed.

14. **VEIN IN WHICH MIDLINE WAS PLACED**

Instructions: Review the medical record to determine the vein in which the Midline was placed.
EXCLUDE: Trans jugular, Jugular, Subclavian, Brachiocephalic and Non-Arm Veins
Select one of the following:

- *"Basilic"* if the medical record indicates that the Midline of interest was placed in the basilic vein.
- *"Brachial"* if the medical record indicates that the Midline of interest was placed in the brachial vein.
- *"Cephalic"* if the medical record indicates that the Midline of interest was placed in the cephalic vein.
- *"Other"* if the medical record indicates that the Midline of interest was placed in a vein not specified above.
  FOR OTHER, PLEASE SPECIFY VEIN
  Instructions: Free text the vein in which the Midline was placed.
- "*Unknown*" if the medical record is silent as to the vein in which the Midline was placed.

15. **SUCCESSFULLY INSERTED BY**

Instructions: Review the medical record to determine the classification (i.e., type of professional) of the individual that placed the Midline of interest. Select the

individual that physically inserted the Midline, and not the ordering physician. This piece of information is likely to be found on a Midline procedure note.
Select one of the following:

- *"Vascular Access Nurse"* if the medical record indicates that the Midline of interest was inserted by a vascular access nurse.
  INCLUDE: Vascular Access Nurse, PICC certified nurse, PICC Registered Nurse, Vascular Nurse, Vascular Access-Board Certified Nurse (VA-BC), Certified Registered Nurse Infusion (CRNI), etc.
- *"Rapid Response Nurse"* if the medical record indicates that the Midline of interest was inserted by a rapid response nurse.
  INCLUDE: Rapid Response Nurse, Nurse trained to be on the Rapid Response team.
- *"Interventional Radiologist"* if the medical record indicates that the Midline of interest was inserted by an interventional radiologist.
  INCLUDE: Interventional Radiologist (IR), Vascular Radiologist, etc.
- *"Physician"* if the medical record indicates that the Midline of interest was inserted by a physician.
  INCLUDE: Medical Doctor (MD), Doctor of Osteopathic Medicine (DO), etc.
- *"Advanced Practice Professional (Non-IR)"* if the medical record indicates that the Midline of interest was inserted by an advanced practice professional that is not part of interventional radiology.
  INCLUDE: Nurse Practitioner (NP), Clinical Nurse Specialist (CNS), Certified Nurse Midwife (CNM), Certified Registered Nurse Anesthetist (CRNA), or Physician Assistant (PA or PA-C), etc.
- *"Advanced Practice Professional (IR)"* if the medical record indicates that the Midline of interest was inserted by an advanced practice professional that is part of interventional radiology.
  INCLUDE: Nurse Practitioner (NP), Clinical Nurse Specialist (CNS), Certified Nurse Midwife (CNM), Certified Registered Nurse Anesthetist (CRNA), or Physician Assistant (PA or PA-C), etc.
- *"Other"* if the medical record indicates that the Midline of interest was inserted by someone with a classification not listed above.
- *"Unknown"* if the medical record is silent as to the classification of the individual who inserted the Midline of interest.

16. **WAS SEDATION USED FOR THE PLACEMENT OF THE MIDLINE?**

Instruction: Review the medical record to determine if sedation was used for the placement of the Midline.

INLCUDE: Any explicit statement stating that sedation was used for the placement of the Midline. Documentation of anesthesia involvement related to systemic sedation rather than local anesthesia used for the placement of the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates that sedation was used for the placement of the Midline.
- *"No"* if the medical record indicates that sedation was not used for the placement of the Midline.
- *"Unknown"* if the medical record is silent as to whether or not sedation was used for the placement of the Midline.

17. **CATHETER STYLE**

Instructions: Review the medical record to determine the style of Midline catheter placed. The style of catheter indicates whether or not the Midline is conventional/ standard, or if it can be used for power injection (i.e., contrast dye injection, etc.). This piece of information is likely to be found on a Midline procedure note.
Select one of the following:

- *"Non-Power MIDLINE"* if the medical record indicates the Midline of interest is a non-power Midline.
- *"Power MIDLINE"* if the medical record indicates the Midline of interest is a Power MIDLINE or a Power Injectable catheter.
  INCLUDE: Examples include (but not limited to): PowerMidline, if the Midline can be used for CT injections
- *"Unknown"* if the medical record is silent as to the style of catheter placed.

18. **LINE THICKNESS/ GAUGE (FR)**

Instructions: Review the medical record to determine the thickness/ French (F, FR, Fr.) size of the Midline catheter placed. The French catheter scale is commonly used to measure the size and external diameter of catheter. This piece of information is likely to be found on a Midline procedure note.
Select one of the following:

- *"3"* if the medical record indicates the thickness of the Midline of interest is 3 FR.
  INCLUDE: 3 F, 3 Fr., 3 FR, 3 French
- *"4"* if the medical record indicates the thickness of the Midline of interest is 4 FR.
  INCLUDE: 4 F, 4 Fr., 4 FR, 4 French
- *"4.5"* if the medical record indicates the thickness of the Midline of interest is 4.5 FR.
  INCLUDE: 4.5 F, 4.5 Fr., 4.5 FR, 4.5 French

- *"5"* if the medical record indicates the thickness of the Midline of interest is 5 FR.
  INCLUDE: 5 F, 5 Fr., 5 FR, 5 French
- *"5.5"* if the medical record indicates the thickness of the Midline of interest is 5.5 FR.
  INCLUDE: 5.5 F, 5.5 Fr., 5.5 FR, 5.5 French
- *"6"* if the medical record indicates the thickness of the Midline of interest is 6 FR.
  INCLUDE: 6 F, 6 Fr., 6 FR, 6 French
- *"7"* if the medical record indicates the thickness of the Midline of interest is 7 FR.
  INCLUDE: 7 F, 7 Fr., 7 FR, 7 French
- *"16"* if the medical record indicates the thickness of the Midline of interest is 16G (16 gauge).
- *"18"* if the medical record indicates the thickness of the Midline of interest is 18G (18 gauge).
- *"20"* if the medical record indicates the thickness of the Midline of interest is 20G (20 gauge).
- *"22"* if the medical record indicates the thickness of the Midline of interest is 22G (22 gauge).
- *"Unknown"* if the medical record is silent as to the thickness of the Midline of interest.
- *"Other"* if the medical record indicates a thickness of the Midline of interest that is not listed above.

  FOR OTHER, PLEASE SPECIFY LINE THICKNESS/GAUGE (FR).
  Instructions: Free text the line thickness/gauge (FR) of the Midline of interest.

19. **LUMENS**

Instructions: Review the medical record to determine the number of lumens the Midline of interest has. The term lumen refers to the number of openings the line has, or IV access lines. Midlines can have one, two, three, or four lumens.
Select one of the following:

- *"Single"* if the medical record indicates that the Midline of interest has one (1) lumen or a single lumen.
- *"Double"* if the medical record indicates that the Midline of interest has two (2) lumens or is double lumen.
- *"Triple"* if the medical record indicates that the Midline of interest has three (3) lumens or is triple lumen.
- *"Quadruple"* if the medical record indicates that the Midline of interest has four (4) lumens or is Quad lumen.

- *"Unknown"* if the medical record is silent as the number of lumens the Midline of interest has.

20. **TOTAL MIDLINE LENGTH (CM)**

Instructions: Review the medical record to determine the total length of the Midline in centimeters (CM). The total Midline length refers to the total length of the line inserted. Midline devices are typically between 6 to 25 cm in length. Indicate the total Midline length as a number between 0 - 40 cm. This piece of information is likely to be found on a Midline procedure note. If the total Midline length is not documented in the medical record, indicate the number 0.

21. **WAS THE MIDLINE CATHETER CUT?**

Instructions: Review the medical record to determine if the Midline catheter was cut.
Select one of the following:

- *"Yes"* if the medical record indicates the Midline catheter was cut.
- *"No"* if the medical record does not indicate the Midline catheter was cut.
- "*Unknown*" if the medical record is silent as to whether the Midline catheter was cut.

22. **IS THE DEVICE MATERIAL DOCUMENTED FOR THE INDEX MIDLINE?**

Instructions: Review the medical record to determine if the device (catheter) material is documented for the index Midline. This piece of information is likely to be found on the Midline procedure note or in the image section of the EMR there may be a scanned document of the Midline packaging which indicates the manufacturer, size, etc.
Select all that apply:

- *"Endexo"* if the medical record documents endexo as a device material of the index Midline.
  INCLUDE: Angiodynamics BioFlo Midline
- *"Non-Polyurethane"* if the medical record documents non-polyurethane as a catheter material of the index Midline.
- *"Polyurethane"* if the medical record documents polyurethane as a catheter material of the index Midline.
- *"Silicone"* if the medical record documents silicone as a catheter material of the index Midline.
- *"Other"* if the medical record documents a catheter material not listed above as a catheter material of the index Midline.

- *"Unknown"* if the medical record is silent as to the type of catheter material for the index Midline.

FOR OTHER, PLEASE SPECIFY THE DEVICE MATERIAL

Instructions: Free text the catheter material for the index Midline.

23. **MANUFACTURER**

Instructions: Review the medical record to determine the manufacturer of the Midline of interest. This piece of information is likely to be found on the Midline procedure note or in the image section of the EMR there may be a scanned document of the Midline packaging which indicates the manufacturer, etc.
Select one of the following:

- "*Access Scientific"* if the medical record indicates that the Midline of interest is manufactured by Access Scientific. Select if documentation states a model number or name that can be directly associated with an Access Scientific product (i.e., Powerwand EDC (Extended Dwell Catheter), Powerwand XL, Powerwand AST).
- *"Angiodynamics"* if the medical record indicates that the Midline of interest is manufactured by Angiodynamics. Select if documentation states a model number or name that can be directly associated with an Angiodynamics product (i.e., BioFlo Midline, BioFlo PICC cut to Midline length).
- "*BARD/BARD Access"* if the medical record indicates that the Midline of interest is manufactured by BARD or BARD Access. Select if documentation states a model number of name that can be directly associated with a BARD or BARD Access product. (i.e., PowerGlide Pro catheter, PowerMidline Catheter, PowerGlide ST Midline, PowerGlide Midline, BARD Poly Midline Catheters, Groshong Midline Cathter, Per-Q-Cath Midline Catheter, PowerPICC cut to Midline length, PowerPICC Provena cut to Midline length, PowerPICC Solo2 cut to Midline length).
- *"Cook"* if the medical record indicates that the Midline of interest is manufactured by Cook. Select if documentation states a model number or name that can be directly associated with a Cook product.
- *"MedComp"* if the medical record indicates that the Midline of interest is manufactured by MedComp. Select if documentation states a model number or name that can be directly associated with a MedComp product (i.e., Arch-Flo Midline, CT Midline, MedComp Midline)
- *"Navilyst"* if the medical record indicates that the Midline of interest is manufactured by Navilyst. Select if documentation states a model number or

name that can be directly associated with a Navilyst product (i.e., Xcela Power Injectable PICC cut to Midline length).

- "*Teleflex*" if the medical record indicates that the Midline of interest is manufactured by Teleflex. Select if documentation states a model number or name that can be directly associated with a Teleflex product (i.e., Arrow Midline, Arrowg+ard Blue Advance Midline, Endurance Extended Dwell Peripheral Catheter, Arrow PICC with Chlorag+ard Tech ology cut to Midline length)
- "*Other*" if the medical record indicates that the Midline of interest is manufactured by a company not specified above.

  FOR OTHER, SPECIFY MANUFACTURER

  Instructions: Free text the manufacturer name.
- "*Unknown*" if the medical record is silent as to the manufacturer of the Midline.

24. **WHAT IS THE DOCUMENTED DEVICE TYPE/NAME FOR THE INDEX MIDLINE?**

Instructions: Review the medical record to determine the device type or name of the index Midline.

Select one of the following:

- *"Access Scientific Powerwand EDC (Extended Dwell Catheter)"* if the medical record indicates that the index Midline is a Powerwand EDC or Powerwand Extended Dwell Catheter.
- *"Access Scientific Powerwand XL"* if the medical record indicates that the index Midline is a Powerwand XL.
- *"Access Scientific Powerwand AST"* if the medical record indicates that the index Midline is a Powerwand AST.
- *"Angiodynamics/Navilyst BioFlo Midline"* if the medical record indicates that the index Midline is a BioFlo Midline.
- *"BARD PowerGlide Pro Midline Catheter"* if the medical record indicates that the index Midline is a PowerGlide Pro Midline Catheter.
- *"BARD PowerMidline Catheter"* if the medical record indicates that the index Midline is a PowerMidline Catheter.
- *"BARD PowerGlide ST Midline Catheter"* if the medical record indicates that the index Midline is a PowerGlide ST Midline Catheter.
- *"BARD PowerGlide Midine Catheter"* if the medical record indicates that the index Midline is a PowerGlide Midline Catheter.
- *"BARD Poly Midline Catheters*" if the medical record indicates that the index Midline is a Poly Midline Catheter.

- *"BARD Groshong Midline Catheter"* if the medical record indicates that the index Midline is a Groshong Midline Catheter.
- *"BARD Per-Q-Cath Midline Catheter"* if the medical record indicates that the index Midline is a Per-Q-Cath Midline Catheter.
- *"BARD Provena Midline Catheter"* if the medical record indicates that the index Midline is a Provena Midline Catheter.
- *"MedComp - Arch-Flo"* if the medical record indicates that the index Midline is an Arch-Flo.
- *"MedComp - CT Midline"* if the medical record indicates that the index Midline is a MedComp CT Midline.
- *"MedComp - Midlin*e" if the medical record indicates that the index Midline is a MedComp Midline.
- *"Teleflex - Arrow Midline"* if the medical record indicates that the index Midline is an Arrow Midline.
- *"Teleflex - Arrowg+ard Blue Advance Midlin*e" if the medical record indicates that the index Midline is an Arrowg+ard Blue Advance Midline.
- *"Teleflex - Arrow Endurance Extended Dwell Peripheral Catheter System"* if the medical record indicates that the index Midline is an Arrow Endurance Extended Dwell Peripheral Catheter.
- *"PICC Cut to Midline: Angiodynamics - BioFlo PICC Catheter"* if the medical record indicates that the index Midline is a BioFlo PICC cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC Catheter"* if the medical record indicates that the index Midline is a PowerPICC Catheter cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC Provena Catheter"* if the medical record indicates that the index Midline is a PowerPICC Provena Catheter cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC SOLO2 Catheter*" if the medical record indicates that the index Midline is a PowerPICC SOLO2 Catheter cut to Midline length.
- *"PICC Cut to Midline: Navilyst - Xcela Power Injectable PICC*" if the medical record indicates that the index Midline is an Xcela Power Injectable PICC cut to Midline length.
- *"PICC Cut to Midline: Teleflex – Arrow PICC with Chlorag+ard Technology with Pressure Injectable Catheter with Blue FlexTip"* if the medical record indicates that the index Midline is an Arrow PICC with Chlorag+ard Technology with Pressure Injectable Catheter with Blue Flex Tip cut to Midline length.
- *"Unknown"* if the medical record is silent or the device type/name for the index Midline is unknown.

- *"Other* if the medical record indicates a device type/name for the index Midline is not listed above. (Note – Contact the Coordinating Center for approval before using this option).

  IF OTHER, PLEASE SPECIFY

  Instructions: Free text the device type/name for the index Midline. Contact the Coordinating Center for approval before entering a device name.

  EXCLUDE: product lot numbers

  INCLUDE: BARD AccuCath Ace

25. **WAS A CATHETER TO VEIN RATIO/PERCENTAGE DOCUMENTED?**

Instructions: Review the medical record to determine if a catheter to vein ratio was measured. Some examples include: Minimum vein diameter 2 x's the catheter size or 3x's the catheter size.

Note: If the only notation of catheter to vein ratio that you see is "line occupies less than X % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]): Select "No" to the question "Was a catheter to vein ratio documented?"- IF you can see a vein size documented, AND there is either a line thickness (fr) or catheter size (mm) documented.

Select "Yes" to the question "Was a catheter to vein ratio documented?"- IF you cannot see a vein size documented (regardless of line thickness or catheter size documentation); select "Other" to the question "What was the catheter to vein ratio?" and capture the documentation you have in the free text box.

Select one of the following:

- *"Yes"* if the medical record indicates a catheter to vein ratio was measured.

  Answer question 25.1

  INCLUDE: If the only notation of catheter to vein ratio is "line occupies less than *X* % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]) and you **cannot** see a vein size documented.

  INCLUDE: Statement of "Percentage of venous occlusion by catheter"
- *"No"* if the medical record does not indicate a catheter to vein ratio was measured.

  INCLUDE: If the only notation of catheter to vein ratio is "line occupies less than *X* % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]) and you **can** see a vein size documented, **AND** there is either a line thickness (fr/gauge) or catheter size (mm) documented.
- *"Unknown"* if the medical record is silent as to whether a catheter to vein ratio was measured.

25.1 IF YES, WHAT WAS THE CATHETER TO VEIN RATIO/PERCENTAGE?

Instructions: Review the medical record to determine the catheter to vein ratio. Select one of the following:

Note: If the catheter to vein percentage is reported as a ratio, please convert it to a percentage and make the appropriate corresponding selection. (Example: 1:2 ratio corresponds to >= 50%, 1:3 ratio corresponds to 30-34%)

- *"< 20%"* if the medical record indicates < 20% as the catheter to vein ratio/percentage.
- *"20-24%"* if the medical record indicates 20-24% as the catheter to vein ratio/percentage.
- *"25-29%"* if the medical record indicates 25-29% as the catheter to vein ratio/percentage.
- *"30-34%"* if the medical record indicates 30-34% as the catheter to vein ratio/percentage.
- *"35-39%"* if the medical record indicates 35-39% as the catheter to vein ratio/percentage.
- *"40-44%"* if the medical record indicates 40-44% as the catheter to vein ratio/percentage.
- *45-49%"* if the medical record indicates 45-49% as the catheter to vein ratio/percentage.
- *">= 50%"* if the medical record indicates >= 50% as the catheter to vein ratio/percentage.
- *"Unknown"* if the catheter to vein ratio is unknown.
- *"Other"* if the medical record indicates a catheter to vein ratio that is not one listed above. (Please contact the coordinating center before using the selection "other" to document the catheter to vein ratio/percentage.)

FOR OTHER, SPECIFY CATHETER TO VEIN RATIO

Instructions: Free text the catheter to vein ratio.

Note: If the only notation of catheter to vein ratio that you see is "line occupies less than X % of the vessel", and you <u>cannot</u> see a vein size documented (regardless of line thickness or catheter size documentation), select "Other" to the question "What was the catheter to vein ratio?" and capture the documentation you have in the free text box.

26. **IS THERE DOCUMENTATION OF CATHETER SIZE IN MM?**

Instructions: Review the medical record to determine if there is documentation of catheter size in mm.
Select one of the following:

- *"Yes"* if the medical record indicates a catheter size in mm was documented.
  FOR YES, PLEASE SPECIFY CATHETER SIZE IN MM
  Instructions: Free text the catheter size in mm.
- *"No"* if the medical record indicates a catheter size in mm was not documented.
- *"Unknown"* if the medical record is silent as to whether a catheter size in mm was documented.

27. **IS THERE DOCUMEINTATION OF VEIN SIZE IN MM?**

Instructions: Review the medical record to determine if there is documentation of vein size in mm.
Select one of the following:

- *"Yes"* if the medical record indicates a vein size in mm was documented.
  FOR YES, PLEASE SPECIFY VEIN SIZE IN MM
  Instructions: Free text the vein size in mm.
- *"No"* if the medical record indicates a vein size in mm was not documented.
- *"Unknown"* if the medical record is silent as to whether a vein size in mm was documented.

28. **ON INITIAL PLACEMENT, WAS THE LOCATION OF THE MIDLINE TIP CONFIRMED?**

Instructions: Review the medical record to determine the catheter location of the Midline tip was confirmed.
Select one of the following:

- *"Yes"* if the medical record indicates that the location of the Midline tip was confirmed. ***Answer question 28.1 through 28.2.***
  INCLUDE: Documentation that the position of the Midline tip was confirmed via ultrasound
  EXCLUDE: Documentation of blood return only, documentation only stating the Midline was placed with ultrasound
- *"No"* if the medical record indicates that the location of the Midline tip was confirmed.
- *"Unknown"* if the medical record is silent as to whether the location of the Midline tip was confirmed.

28.1 IF YES, CONFIRMATION TYPE

Instructions: Indicate the method used to confirm the Midline tip location.
Check all that apply:

- *"X-ray"* if the medical record indicates that the Midline tip was checked on initial placement via x-ray.
  INCLUDE: X-ray, Radiograph
- *"Fluoroscopy"* if the medical record indicates that the Midline tip was checked on initial placement via fluoroscopy.
  INCLUDE: Fluoroscopy, Fluoroscope
- *"Ultrasound"* if the medical record indicates that the Midline tip was checked on initial placement via ultrasound.
  INCLUDE: Midline placement with ultrasound
- *"Physical Assessment (Physical Marking)"* if the medical record indicates that the Midline tip was checked on initial placement via physical assessment or physical marking.
- *"Other* if the medical record indicates that the Midline tip was checked on initial placement via a method that is not listed above.

  FOR OTHER, SPECIFY CONFIRMATION TYPE
  Instructions: Free text the method of midline tip confirmation.
  EXCLUDE: only documentation of blood return
- "*Unknown*" if the medical record is silent as to the type of method that was used to check the Midline tip location.

28.2 WHAT IS THE DOCUMENTED LOCATION OF THE MIDLINE TIP?
Instructions: Indicate the documented location of the Midline tip.
Select one of the following:

- *"Basilic Vein"* if the medical record indicates that the Midline terminates in the Basilic Vein.
- *"Brachial Vein"* if the medical record indicates that the Midline terminates in the Brachial Vein.
- *"Cephalic Vein"* if the medical record indicates that the Midline terminates in the Cephalic Vein.
- *"Distal to the Axilla"* if the medical record indicates that the Midline terminates Distal to the Axilla.
- *"Axillary Vein/Axilla"* if the medical record indicates that the Midline terminates in the Axillary Vein or at the Axilla.
- *"Subclavian Vein"* if the medical record indicates that the Midline terminates in the Subclavian Vein.

- *"Other"* if the medical record indicates that the Midline terminates in a vein not listed.

  IF OTHER, SPECIFY MIDLINE TIP LOCATION

  Instructions: Free text the specified location of the midline tip.
- "*Unknown"* if the medical record is silent regarding the vein in which the Midline terminates.

29. **WAS THE DEVICE ORDERED THE ONE THAT WAS INSERTED?**

Instructions: Review the medical record to determine if the original device ordered was the one that was inserted.

Select one of the following:

- "*Yes*" if the medical record indicates that that the device ordered was the one that was inserted (i.e., Midline ordered and Midline inserted).
  INCLUDE: Vascular access consult where the ordering physician leaves the choice to the inserting provider who is using MAGIC criteria or similar decision tool to make appropriate line choice.
- "*No*" if the medical record indicates that the device ordered was not the one that was inserted (i.e., PICC ordered and Midline inserted)
- "*Unknown*" if the medical record is silent as to whether the device ordered was the one that was inserted.

30. **WAS THE NUMBER OF LUMENS ORDERED THE SAME AS THE NUMBER OF LUMENS INSERTED?**

Instructions: Review the medical record to determine if the number of lumens ordered was the number of lumens that was inserted.

Select one of the following:

- "*Yes*" if the medical record indicates that that the number of lumens ordered was the number of lumens that was inserted (i.e., Single lumen ordered and Single lumen inserted).
- "*No*" if the medical record indicates that the number of lumens ordered was not the number of lumens that was inserted (i.e., Single lumen ordered and Double lumen was inserted) ***Answer question 30.1.***
- "*Unknown*" if the medical record is silent as to whether the number of lumens ordered was the number of lumens that was inserted.
  INCLUDE: When the Midline order does not specify the number of lumens, select "Unknown".

30.1 DID THE NUMBER OF LUMENS INSERTED?

Instructions: Review the medical record to determine if the number of lumens inserted increased or decreased relative the number of lumens ordered.
Select one of the following:

- *"Increase in relation to the number of lumens ordered"* if the medical record indicates that the number of lumens inserted increased in relation to the number of lumens that was inserted (i.e., Single lumen ordered and Double lumen inserted).
- *"Decrease in relation to the number of lumens ordered"* if the medical record indicates that the number of lumens inserted decreased in relation to the number of lumens that was inserted (i.e., Double lumen ordered and Single lumen inserted).

Admission Detail

1. **DATE OF ADMISSION**

Instructions: Review the medical record to determine the date the patient was admitted to the hospital as an inpatient. The only exception to this is if the patient was admitted to the medicine service, however, was still physically located in the emergency room, short stay unit, observation unit, etc. due to limited bed space. Do not record the date the patient arrived in the emergency room or was admitted to an observation unit as the date of inpatient admission. Record the date in (MM/DD/YYYY) format.

2. **INDICATE THE PLACE OF RESIDENCE PRIOR TO HOSPITLIZATION**

Instructions: Review the medical record to determine the patient's primary residence immediately prior to the hospitalization of interest. There are twelve (12) options for this question.
Select one of the following:

- *"Assisted Living"* if the medical record indicates that the patient was living in an assisted living facility immediately prior to the hospitalization of interest.
  INCLUDE: Assisted living, assisted living facilities (ALF), assisted living residence
  Note: Assisted living is not the same as nursing home care. Assisted living is for adults that need help with everyday tasks, but don't need full-time nursing care.

- *"Community Living"* if the medical record indicates that the patient was living in a community setting immediately prior to the hospitalization of interest.
  INCLUDE: Dormitories, Sorority/Fraternity Houses, Hotels, Transitional Housing
- *"Correctional Facility"* if the medical record indicate that the patient is serving time in a correctional facility, jail, prison or penitentiary immediately prior to the hospitalization of interest.
- *"Group Home"* if the medical record indicates that the patient's primary residence is a group home and they were living there immediately prior to the hospitalization of interest.
  INCLUDE: Adult Foster Care, Substance Abuse Residential Programs
- *"Home"* if the medical record indicates that the patient's primary residence is a private home and they were living there immediately prior to the hospitalization of interest.
  INCLUDE: The patient's own home or family member's home.
- *"Homeless Shelter"* if the medical record indicates that the patient's primary residence is a shelter or that the patient is homeless and they were living there immediately prior to the hospitalization of interest.
  INCLUDE: Patients that are homeless but not in a shelter
- *"Inpatient Hospitalization"* if the medical record indicates that the patient resided from an inpatient hospitalization immediately prior to the hospitalization of interest
- *"Inpatient Psychiatric Facility"* if the medical record indicates that the patient resided in an inpatient psychiatric facility immediately prior to the hospitalization of interest.
- *"Inpatient Rehab"* if the medical record indicates that the patient was admitted for inpatient rehab immediately prior to the hospitalization of interest.
- *"Long Term Acute Care Hospital (LTACH)"* if the medical record indicates that the patient was admitted to a long term acute care hospital immediately prior to the hospitalization of interest.
- *"Skilled Nursing Facility"* if the medical record indicates that the patient was admitted to a skilled nursing facility immediately prior to the hospitalization of interest.
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF), Extended Care Facility (ECF).
- *"Sub-acute Rehabilitation Facility"* if the medical record indicates that the patient was admitted to a sub-acute rehabilitation facility immediately prior to the hospitalization of interest.

- *"Unknown"* if the medical record is silent regarding the patient's primary residence immediately prior to the hospitalization of interest.

3. **WHAT IS THE ICD-10 CODE THAT CORRESPONDS WITH THE PRIMARY ADMITTING DIAGNOSIS?**

Instructions: Review the medical record to determine the ICD-10 code corresponding with the principal reason for admission or admitting diagnosis as defined in the admitting history and physical. Use the free text box to enter the ICD-10 code that corresponds with the primary admitting diagnosis.
Note: Enter in one ICD-10 code and make sure that it is capitalized. Do not hit enter while inputting ICD-10 codes into the box.

4. **INDICATE THE ADMISSION SOURCE**

Instructions: Review the medical record to determine the source from which the patient was admitted. Check any admission sources that apply. Once the admission source(s) is selected, a new category will appear to input further data.
Select all that apply:

- *"Emergency Room"* if the medical record indicates that the patient was admitted either from an emergency room or from an urgent care center directly associated with your hospital.
  INCLUDE: Admissions from the emergency room (ER), emergency department (ED), urgent care center directly associated with your hospital, emergency department (ED) to emergency department (ED) transfer.
  DATE OF ER ADMIT
  Instructions: Indicate the date of the ER admit in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
- *"Observation Unit"* if the medical record indicates that the patient was admitted from an observation unit, within your institution or elsewhere.
  INCLUDE: Observation unit, observation status (i.e., do not meet inpatient status). Include patients that are in an inpatient area but are considered "observation" status.
  DATE OF OBS ADMIT
  Instructions: Indicate the date of the observation admit in the in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
- *"Direct Admit"* if the medical record indicates that the patient was admitted as a direct admit.
  INCLUDE: Direct admits from home or doctor's office, or if patient told by their doctor to go to the hospital to be admitted through the hospital's admission

office (not emergency room).

- *"Transfer from Another Facility"* if the medical record indicates that the patient was transferred from another facility. ***Answer question 4.1***
  INCLUDE: Any transfer from another facility (i.e., another hospital, sub-acute rehabilitation center, skilled nursing home, acute rehabilitation center, or assisted living), admission from an inpatient psychiatric unit at the same facility.
  EXCLUDE: If the patient is transferred from an Adult Foster Care Center and it is the patient's usual place of residence than this would NOT be considered a transfer from another facility.

  DATE OF TRANSFER (MM/DD/YYYY)
  Instructions: Indicate the date of the transfer in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

4.1 FOR TRANSFER FROM ANOTHER FACILITY, PLEASE SPECIFY.
Instructions: Review the medical record to determine the type (i.e., another hospital, sub-acute rehabilitation center, skilled nursing home, acute rehabilitation center, or assisted living) of facility the patient was transferred from.
Select one of the following:

- *"Sub-acute rehabilitation center"* if the medical record indicates that the patient was transferred from a sub-acute rehabilitation facility. Sub-acute rehabilitation centers are for patients that no longer require hospitalization, but still need skilled medical care in a rehabilitation facility/center.
  INCLUDE: Sub-acute rehabilitation (rehab), sub-acute rehabilitation care, post-acute rehabilitation center
- *"Skilled nursing home"* if the medical record indicates that the patient was transferred from a skilled nursing home. Skilled nursing homes are generally for patients who require constant nursing care and have significant difficulties with their activities of daily living (i.e., bathing, dressing, eating, etc.).
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF)
- *"Acute rehabilitation center"* if the medical record indicates that the patient was transferred from an acute rehabilitation center.
  INCLUDE: Acute rehabilitation center, acute rehabilitation services, acute rehab, inpatient rehabilitation facility (IRF), inpatient rehab
- *"Assisted living"* if the medical record indicates that the patient was transferred from assisted living.
  INCLUDE: Assisted living, assisted living facilities (ALF), assisted living residence

Note: Assisted living is not the same as nursing home care. Assisted living is for adults that need help with everyday tasks, but don't need full-time nursing care.

- *"Another hospital"* if the medical record indicates that the patients was transferred from another hospital.
  INCLUDE: Any transfer from another hospital/ health care facility. Also, include long term acute care hospitals (LTACH). If a patient is discharged from an inpatient psychiatric unit or rehabilitation unit within your institution and readmitted to a medicine, it is considered a hospital-to-hospital transfer and is included in this selection.

5. **CLASSIFICATION OF THE ATTENDING PHYSICIAN AT THE TIME OF MIDLINE INSERTION**

Instructions: Review the medical record to determine the classification of the attending physician at the time of Midline placement. Choose the option that best describes the attending physician's practice specialty. This information may be found on the progress note for the day the Midline was inserted.
Note: Patients admitted by a surgeon to a medical service for a medical condition may be included.
Select one of the following:

- *"Hospitalist"* if the medical record indicates that the attending physician at the time of Midline insertion was a Hospitalist.
  INCLUDE: Each participating hospital in the HMS Consortium has one or more group(s) of hospitalists. It may be helpful to obtain a list of the physicians that participate in your hospital's hospitalist program.
- *"General Internist"* if the medical record indicates that the attending physician at the time of Midline insertion was a General Internist.
  INCLUDE: Physicians that specialize in Adult Medicine or Internal Medicine.
- "*Infectious Disease*" if the medical record indicates that the attending physician at the time of Midline placement was an Infectious Disease specialist.
  INCLUDE: Physicians that specialize in Infection Disease (ID) or Infectious Disease Specialist.
- *"Hematologist/Oncologist"* if the medical record indicates that the attending physician at the time of Midline placement was a Hematologist and/or Oncologist.
  INCLUDE: Physicians that specialize in hematology and/or oncology.
- *"Medicine Sub Specialist"* if the medical record indicates that the attending physician at the time of Midline placement was a Medicine Sub Specialist.

INCLUDE: Physicians that specialize in General/ Internal Medicine and have sub-specialized in another area such as Endocrinology, Cardiology, Pulmonary or Gastroenterology, as a few examples.

- *"Critical Care"* if the medical record indicates that the attending physician at the time of Midline insertion was a Critical Care Physician.
  INCLUDE: Physicians that specializes in critical care medicine or Intensivist. Select this category as the attending whenever a patient is located in the ICU at the time of Midline placement.
- *"Family Medicine"* if the medical record indicates that the attending physician at the time of Midline placement was a Family Medicine Physician.
  INCLUDE: Physicians that specializes in family medicine, family practice. Family physician, family doctor, etc.
- *"Other"* if the medical record indicates that the attending physician at the time of Midline placement was of a specialty not listed above.

Co-Morbid Conditions

1. **PLEASE SPECIFY THE CO-MORBID CONDITIONS**

Instructions: Review the medical record to determine if the patient has any of the following co-morbid conditions. Co-morbid condition refers to the presence of one or more disorders/ diseases, in addition to the primary disease of interest. Co-morbid conditions may worsen or have an effect on acute illness. Please select all conditions that are present on admission. There are fourteen (14) options for this question.
Note: If a patient is receiving treatment with a medication alone without documentation of a condition, it should not be entered as a co-morbid condition. For example, if patient is taking an ACE inhibitor and there is no mention of "Hypertension", then this should not be included as a co-morbid condition as some patients take these medications for other reasons.
Select all that apply:

- *"Acquired immune deficiency syndrome (AIDS)/ Human Immunodeficiency Virus (HIV)"* if the medical record indicates that the patient has acquired immune deficiency syndrome (AIDS) or Human Immunodeficiency Virus (HIV).
  INCLUDE: Examples include (but not limited to): acquired immune deficiency syndrome (AIDS), AIDS-related complex (ARC), symptomatic or asymptomatic

Human Immunodeficiency Virus (HIV), Symptomatic HIV infections and reference to AIDS
EXCLUDE: Exposure to HIV virus; Nonspecific serologic evidence of HIV

- *"Cerebrovascular disease"* if the medical record indicates that the patient has a cerebrovascular disease.
  INCLUDE: Examples include (but not limited to): cerebral vascular accident (CVA); Transient ischemic attack (TIA); Intracranial hemorrhage (e.g., subarachnoid hemorrhage); Carotid stenosis; Dural venous sinus thrombosis; septic emboli to the brain, cerebral small vessel disease, anterior communicating artery aneurysm; carotid artery disease; non-ruptured cerebral aneurysm; pseudotumor cerebri (idiopathic intracranial hypertension); spinal cord infarct
- *"Coagulopathy"* if the medical record indicates that the patient has a coagulopathy.
  INCLUDE: Examples include (but not limited to): antiphospholipid syndrome; Antithrombin III deficiency; Disseminated intravascular coagulation (DIC); Elevated platelet counts (>1,000,000/mm3); Factor V Leiden (FVL); Hereditary bleeding disorders marked by deficiencies of blood-clotting proteins; Hypo/Hypercoagulable states; Idiopathic thrombocytopenia purpura (ITP); Increased homocysteine/ hyperhomocysteinemia; Liver failure with an INR > 2.0; Lupus anti-coagulant (such as anti-phospholipid anti-body or anti-cardolipin antibody syndrome); Myeloproliferative disorders; Protein C or Protein S deficiency; Prothrombin gene mutation (G20210A); Qualitative platelet disorders (e.g. Glanzmann's thrombasthenia); Sticky platelet syndrome; Thrombocytosis; Thrombotic thrombocytopenic purpura (TTP); Type A hemophilia (Factor VIII deficiency); Vitamin K deficiency; Von Willebrand disease, Jak2 mutation that resulted in thrombocytosis, Thrombocytopenia, most likely related to sepsis, chronic thrombocytopenia.
  EXCLUDE: Temporary coagulopathy as a result of medication use (e.g. Coumadin, Pradaxa, etc.); Pancytopenia; Sickle cell disease
- *"Dementia"* if the medical record indicates that patient has dementia.
  INCLUDE: Examples include (but not limited to): loss of cognitive function due to illness, Alzheimer's, cerebral anoxia, chronic alcoholism, CO_2 poisoning, hypothyroidism, multiple brain infarcts, vascular dementia, Parkinson's, subdural hematoma, Vitamin B_{12} deficiency; Vascular dementia
  EXCLUDE: Temporary loss of cognitive function; Acute delirium; drug related delirium or withdrawal.
  Note: Only select if patient has long term cognitive dysfunction. For example, some patients with Alzheimer's or Parkinson's have long term cognitive

dysfunction related to the disease which in this case it would be appropriate to select this field. However, some patients have Alzheimer's and Parkinson's without dementia, which would not be appropriate to select this field.

- *"Diabetes-complicated"* if the medical record indicates the patient has diabetes-complicated.
  INCLUDE: Examples include (but not limited to): diabetes Type I and II (whether controlled with insulin, oral anti-hyperglycemic medications, or diet) with renal (nephropathy), ophthalmic (retinopathy), and/or neurologic (neuropathy) manifestations; Diabetic gastroparesis; Diabetes with circulatory disorders (cardiac, cerebral, peripheral vascular); Brittle diabetics (defined as any patient whose life is constantly disrupted by episodes of hypo/hyperglycemia, whatever the cause); Persons with diabetic ketoacidosis (with or without coma); Hyperosmolar (non-ketotic) coma; Diabetic hypoglycemic coma; Insulin coma.
  EXCLUDE: Uncomplicated diabetes, diabetes insipidus
- *"Diabetes-uncomplicated"* if the medical record indicates the patient has diabetes- uncomplicated.
  INCLUDE: Examples include (but not limited to): diabetes Type I and II (whether controlled with insulin, oral anti-hyperglycemic medications, or diet) without mention of complications
  EXCLUDE: Diabetes-complicated, diabetes insipidus
- *"Hypertension"* if the medical record indicates the patient has hypertension.
  INCLUDE: Examples include (but not limited to): Essential hypertension; Hypertensive heart or kidney disease; Primary, secondary, and rebound hypertension.
  EXCLUDE: Patients taking hypertensive medications without mention of hypertension or high blood pressure in the medical chart; idiopathic intracranial hypertension.
- *"Mild Liver Disease"* if the medical record indicates that the patient has mild liver disease.
  INCLUDE: Examples include (but not limited to):mild liver disease, alcoholic cirrhosis of liver, Laennec's cirrhosis, chronic hepatitis unspecified, chronic persistent hepatitis, autoimmune hepatitis, cirrhosis of the liver without mention of alcohol (i.e. NOS, cryptogenic, macronodular, micronodular, posthepatitic, postnecrotic), healed yellow atrophy (liver), portal cirrhosis, biliary cirrhosis, cholangitis, chronic nonsuppurative destructive cholangitis, sarchoidosis with Granulomatous Hepatitis, Lesions on the liver from sarcoidosis, cirrhosis, cholestatic cirrhosis; Hepatitis A, B, C, D, or G without mention of end-stage liver disease-Lesions on Liver from Sarcoidosis , shock liver(ischemic hepatitis), fatty

liver, liver cyst, liver hemangioma, “history of liver transplant” status, hepatic steatosis.
Note1: If medical record documentation states only "Liver disease" without any further explanation, select "Mild Liver Disease."
Note2: If Hepatitis A, B, C, D, or G is listed without mention of end-stage liver disease, select mild liver disease. If Hepatitis A, B, C, D, or G is mentioned with end-stage liver disease, select moderate or severe liver disease.

- *“Moderate or Severe Liver Disease”* if the medical record indicates that the patient has moderate or severe liver disease.
  INCLUDE: Examples include (but not limited to): Moderate liver disease, severe liver disease, esophageal varices with or without mention of bleeding, hepatic coma, hepatic encephalopathy, hepatocerebral intoxication or hepatic encephalopathy, porto-systemic encephalopathy, portal hypertension, hepatorenal syndrome, other sequelae of chronic liver disease, end-stage liver disease; Hepatitis A, B, C, D, or G with mention of end-stage liver disease, acute liver failure.
  EXCLUDE: Elevated liver enzymes without mention of liver disease; Gilbert’s Disease, Congestive hepatopathy
- *“Moderate to Severe Chronic Kidney Disease”* if the medical record indicates the patient has moderate to severe chronic kidney disease.
  INCLUDE: Examples include (but not limited to): acute renal failure (ARF); acute kidney injury (AKI); chronic renal failure (CRF); chronic kidney disease (CKD); End-stage renal disease (ESRD); Renal insufficiency stage 3 or greater (GFR ≤ 59 ml/min/1.73m^2); renal osteodystrophy. Chronic irreversible failure of both kidneys to function, as a result of which either regular renal dialysis or renal transplant is initiated, or documentation that the serum creatinine is 3 X the upper limit of normal (ULN).
  EXCLUDE: Cardiorenal Syndrome with no classification of the severity of the patient’s renal disease
- *“Peptic ulcer disease”* if the medical record indicates the patient has peptic ulcer disease.
  INCLUDE: Examples include (but not limited to): Active gastric ulcers; active esophageal ulcers; gastritis; esophagitis; Barret’s esophagus; duodenitis; marginal ulcer
  EXCLUDE: Gastroesophageal reflux disease (GERD)
- *“Peripheral vascular disorders”* if the medical record indicates the patient has a peripheral vascular disorder.

INCLUDE: Examples include (but not limited to): Amputation related to PVD; Aortoiliac, femoral, and axillary artery occlusive disease; Atherosclerosis of the carotid if no history of TIA or stroke; Claudication; dermatitis stasis; Peripheral vascular disease (PVD); Peripheral vascular occlusive disease (PVOD); Prior vascular surgeries related to PVD (e.g. femoral-popliteal bypass); Severe peripheral arterial disease (PAD) with ulcerations; moderate peripheral arterial disease (PAD); Venous stasis; Venous insufficiency; AAA without repair; thoracic aortic aneurysm without repair
EXCLUDE: Aortic abdominal aneurysm (AAA) repair with no further issues; Esophageal varices; Ischemic colitis; Lymphedema; Raynaud's disease; venous reflux, Varicose Veins (and treatment of varicose veins)

- *"None of the above"* if the medical record does not indicate that the patient has any of the co-morbid conditions listed above.

Physical Findings

1. **IS THE DOCUMENTATION OF THE PATIENT'S HEIGHT?**

Instructions: Review the medical record to determine if the patient's height is documented. Use height documented closest to the time of Midline insertion. There are two (2) options for this question.
INCLUDE: The documentation of the patient's height closest to the time of Midline Insertion.
Select one of the following:

- *"Yes"* if the medical record indicates the patient's height. ***Answer questions 1.1 through 1.2***
- *"No"* if the medical record does not indicate the patient's height.

1.1 UNIT

Instructions: Indicate the unit of measurement for the patient's height.
Select one of the following:

- *"Inches (in)"* if the patient's height is in inches (in).
- *"Centimeters (cm)"* if the patient's height is in centimeters (cm).

1.2 HEIGHT

Instructions: Indicate the patient's height (numeric only).

2. **IS THERE DOCUMETATION OF THE PATIENT'S WEIGHT?**

Instructions: Review the medical record to determine if the patient's weight is documented. Use weight documented closest to the time of Midline insertion.
INCLUDE: The documentation of the patient's weight closest to the time of Midline Insertion. Weights in which the EMR does not specify the method or if the weight is actual or estimated.
EXCLUDE: Patient reported weights.
Select one of the following:

- *"Yes"* if the medical record indicates the patient's weight. ***Answer questions 2.1 through 2.2***
- *"No"* if in the medical record does not indicate the patient's weight.

2.1 UNIT

Instructions: Indicate the unit of measurement for the patient's weight.
Select one of the following:

- *"Pounds (lbs)"* if the patient's weight is in pounds (lbs.).
- *"Kilograms (kg)"* if the patient's weight is in kilograms (kg).

2.2 WEIGHT

Instructions: Indicate the patient's weight (numeric only).

3. **BMI**

Instructions: The patient's body mass index (BMI) will be generated by the computer system from height and weight information. Review the system generated value to see if it corresponds to the patient scenario.

4. **IS THERE DOCUMENTATION THAT THE PATIENT IS OBESE?**

Instructions: Review the medical record to determine if the patient is obese (i.e. overweight). There are three (3) options for this question.
INCLUDE: Any documentation that the patient is obese (obesity) and/or BMI is documented greater than or equal to 30.
EXCLUDE: BMI less than 30 (unless obesity is specifically stated in the medical record), documentation that the patient is underweight
Note: A BMI calculator is available at
http://www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm
Select one of the following:

- *"Yes"* if the medical record reports a BMI greater than 30 or height and weight are documented and BMI calculation is greater than 30. If the medical record does not have a documented BMI, or a height and weight, but physician states patient is obese.
- *"No"* if the medical record reports a BMI less than 30 or height and weight are used to calculate BMI which is less than 30. If the medical record does not have a documented BMI or a height and weight, but physician states patient is underweight.
- *"Unknown"* if the medical record is silent regarding obesity, BMI is not available, or patient height and weight are not available.

5. **IS THERE DOCUMENTATION, AT THE TIME OF MIDLINE INSERTION, THE PATIENT HAS VENOUS STATSIS OR VARICOSE VEINS OF THE LEGS?**

Instructions: Review the medical record to determine if the patient has venous stasis and/or varicose veins of one or both legs (lower extremities [LE]) the day before Midline placement, the day of Midline placement, and/or the day after Midline placement.
INCLUDE: Examples include (but not limited to): venous stasis, venostasis, stasis, chronic venous stasis, varicose veins, venous insufficiency, lower extremity varicosities; venous dermatitis, Patient reports that they have varicose veins at the time of Midline placement
EXCLUDE: History of vein ligation for the treatment of varicose veins without evidence of current presence of varicosities.
Select one of the following:

- *"Yes"* if the medical record indicates the patient has venous stasis and/or varicose veins at the time of Midline placement.
- *"No"* if the medical record does not indicate the patient has venous stasis and/or varicose veins at the time of Midline placement.
- *"Unknown"* if the medical record is silent regarding the presence of venous stasis or varicose veins at the time of Midline placement.

6. **IS THERE DOCUMENTATION, AT THE TIME OF MIDLINE INESRTION, THE PATIENT HAS SWOLLEN LEGS?**

Instructions: Review the medical record to determine if the patient has swollen or edematous legs the day before Midline placement, the day of Midline placement, and/or the day after Midline placement.
INCLUDE: Edema or swelling in one or both lower extremities (i.e. legs), pitting edema whether it is characterized as 1+, 2+, 3+, 4+, or Anasarca (i.e. extreme

generalized edema), trace edema, chronic swelling of the legs.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient has swollen legs at the time of Midline placement.
- *"No"* if the medical record does not indicate that the patient has swollen legs at the time of Midline placement.
- *"Unknown"* if the medical record is silent regarding the presence of swollen legs at the time of Midline placement.

7. **IS THERE DOCUMENTATION WITHIN 48 HOURS PRIOR TO THE MIDLINE INSERTION THAT THE PATIENT HAD A FEVER >38 DEGREES C OR >100.4 DEGREES F?**

Instructions: Review the medical record to determine if there is documentation that the patient had a fever greater than (>) 38°C within 48 hours prior to the Midline placement. If there is documentation that the patient was febrile (i.e. had a fever) within 48 hours prior to the Midline placement, review the progress note to determine if the temperature was > 38°C
INCLUDE: Any documented temperature that was greater than (>) 38°C (or > 100.4°F) within 48 hours prior to the Midline placement (i.e. the 48 hours prior to Midline placement).
EXCLUDE: temperature equal to or below 38°C (or 100.4°F)
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a fever greater than (>) 38°C within 48 hours of Midline placement.
- *"No"* if the medical record does not indicate that the patient had a fever greater than (>) 38°C within 48 hours of Midline placement.
- *"Unknown"* if the medical record does not indicate a patient temperature within 48 hours of Midline placement.

8. **IS THERE DOCUMENTATION WITHIN 48 HOURS PRIOR TO THE MIDLINE INSERTION THAT THE PATIENT HAD HYPOTHERMIA WITH A BODY TEMPERATURE <36.5 DEGREES C?**

Instructions: Review the medical record to determine if there is documentation that the patient had hypothermia (<) 36.5°C within 48 hours prior to the Midline placement. If there is documentation that the patient was hypothermic within 48 hours prior to the Midline placement, review the progress note to determine if the temperature was < 36.5°C.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had hypothermia with a body temperature less than (<) 36.5^{o}C within 48 hours of Midline placement.
- *"No"* if the medical record does not indicate that the patient had hypothermia with a body temperature less than (<) 36.5^{o}C within 48 hours of Midline placement.
- *"Unknown"* if the medical record does not indicate a patient temperature within 48 hours of Midline placement.

9. **AT THE TIME OF MIDLINE INSERTION, DOES THE PATIENT HAVE ORDERS FOR THE FOLLOWING RENAL REPLACEMENT THERAPIES?**

Instructions: Review the medical record to determine if the patient has <u>active</u> orders for renal replacement therapy (i.e. hemodialysis, peritoneal dialysis, or hemofiltration) the day before Midline placement, the day of Midline placement, and/or the day after Midline placement. Renal replacement therapy is used to remove waste products from the blood when the kidneys are not working effectively (i.e. renal failure).

Select all that apply:

- *"Hemodialysis"* if the medical record indicates that the patient has orders for hemodialysis at the time of Midline placement.
  INCLUDE: Hemodialysis, HD, Sustained low efficiency dialysis (SLEDD).
  EXCLUDE: Electrophoresis, plasmapheresis, aquapheresis
- *"Peritoneal Dialysis"* if the medical record indicates that the patient has orders for peritoneal dialysis at the time of Midline placement.
  INCLUDE: Peritoneal dialysis, PD
  EXCLUDE: Electrophoresis, plasmapheresis, aquapheresis
- *"Hemofiltration"* if the medical record indicates that the patient has orders for hemofiltration at the time of Midline placement.
  INCLUDE: Continuous hemofiltration (CHF), Continuous hemodiafiltration (CHDF), Continuous veno-venous hemofiltration (CVVH), Continuous renal replacement therapy (CRRT), Hemofiltration (HF), Intermittent hemofiltration (IHF), Intermittent hemodiafiltration (IHDF), Slow extended hemofiltration (SLEF).
  EXCLUDE: Electrophoresis, plasmapheresis, aquapheresis
  <u>Note:</u> Hemofiltration is usually performed in an intensive care setting. It is usually used in acute renal failure.
- *"N/A"* if the medical record is silent regarding orders for renal replacement therapies at the time of Midline placement

10. **AT THE TIME OF MIDLINE INSERTION, DOES THE PATIENT HAVE A PERIPHERAL IV?**

Instructions: Review the medical record to determine if the patient had a peripheral intravenous (IV) access/catheter/line in place, at the time of Midline placement.

Peripheral IVs are placed in order to gain access to the peripheral blood circulation, and are usually placed in upper and lower extremities.

INCLUDE: Peripherally inserted IVs in the: Antecubital (AC), Hand, External jugular (EJ), Forearm, Internal jugular (IJ), Left lower extremity (LLE), Left upper extremity (LUE), Right lower extremity (RLE), Right upper extremity (RUE)

EXCLUDE: Centrally inserted venous catheters, CVC, midline, ports.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient has a peripheral IV in place at the time of Midline placement.
- *"No"* if the medical record does not indicate that the patient has a peripheral IV in place at the time of Midline placement.
- *"Unknown"* if the medical record is silent regarding peripheral IV placement or venous access at the time of Midline placement.

11. **WAS A PERIPHERAL IV INSERTED DURING THE TIME THE PATIENT HAD THE MIDLINE?**

Instructions: Review the medical record to determine if the patient had a peripheral intravenous (IV) access/catheter/line in placed while the patient had the Midline in place.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a peripheral IV placed during the time the patient had the Midline in place. ***Answer question 11.1***
- *"No"* if the medical record does not indicate that the patient had a peripheral IV placed during the time the patient had the Midline in place
- *"Unknown"* if the medical record is silent regarding placement of a peripheral IV during the time the patient had the Midline in place.

11.1 IF YES, INDICATE THE NUMBER OF PERIPHERAL IVS PLACED DURING THE TIME THE PATIENT HAD THE MIDLINE.

Instructions: Review the medical record to determine if the patient had a peripheral intravenous (IV) successfully placed during the time the patient had the Midline in place.

Choose one of the following:

- *"1-20"* select the number that matches the number of peripheral IVs successfully placed during the time the patient had the midline.
- *"Multiple" if* multiple peripheral IVs successfully placed during the time the patient had the midline, but there is no documentation of an exact number of peripheral IVs.
- *"Unknown"* if the medical record is silent regarding the number of peripheral IVs successfully placed during the time the patient had the midline.

12. **DOES THE PATIENT HAVE AN <u>EXISTING</u> INDWELLING CENTRAL VENOUS CATHETER (CVC)?**

Instructions: Review the medical record to determine if the patient has an existing indwelling CVC at the time of Midline placement; there are many types of central venous catheters.

<u>Note:</u> If a PICC or CVC was inserted prior to the Midline of interest and it is still present at the time of abstraction, it should be entered in this field irrespective of whether this was entered in previous sections pertaining to existing central lines.

INCLUDE: Non-tunneled, tunneled, peripherally inserted, or implanted central venous catheters (CVCs) present on admission, placed in the emergency department prior to admission, or if placed prior to the MIDLINE being abstracted. Some examples include: Arrow, Broviac, Cannon Arrow, CL-20, Cook catheter, Groshong, Hickman, Hohn, Infusaport, Kendal Palindrome, Neostar, PermaCath, Pro-line, R-Port, Quinton, S-Port , Vas Cath, Mediport insertion, Mediport that has been accessed (including accessed for flushes), Single Lumen Infusion Catheter (SLIC), and ICY Intravascular Heat Exchange Catheter (ICY Catheter). Any catheter (even if a regular angiocath) that is inserted into a femoral vein, subclavian vein, or axillary vein.

EXCLUDE: AV Fistulas, External Jugular (EJ) or Internal Jugular (IJ) peripheral IV, midline catheters (some examples include: Power glide), Central lines that are placed and removed within one day, arterial catheters, Swan Ganz catheters, midline catheters, or Mediports that have not been accessed.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient has an <u>existing</u> central venous catheter (CVC) in place. ***Answer question 12.1***
- *"No"* if the medical record does not indicate that the patient has an <u>existing</u> central venous catheter (CVC) in place.
- *"Unknown"* if the medical record is silent regarding an <u>existing</u> central venous catheter (CVC).

12.1 WAS THIS CENTRAL VENOUS CATHETER (CVC) INSERTED DURING THIS ADMISSION?

Instructions: Review the medical record to determine if the existing indwelling CVC (i.e. existing at the time of Midline placement) was inserted during the current admission (i.e. the same admission as the Midline of interest).
INCLUDE: Any CVCs that were inserted during the current admission, prior to the Midline that is being abstracted. Any catheter (even if a regular angiocath) that was inserted into a femoral vein, subclavian vein, or axillary vein OR Mediport accessed during the current admission, prior to the Midline that is being abstracted.
EXCLUDE: CVCs that were present on admission, or placed in the emergency department prior to hospital admission.
Select one of the following:

- *"Yes"* if the medical record indicates that the existing CVC was placed during this admission. ***Answer question 12.1.1***
- *"No"* if the medical record does not indicate that the existing CVC was placed during this admission. ***Answer question 12.1.1***
- *"Unknown"* if the medical record is silent regarding time of existing CVC placement.

12.1.1 IS THE CVC A:

Instructions: Review the medical record to determine the type(s) of existing CVC(s) (i.e. existing at the time of Midline placement) that was inserted during this admission.
Select all that apply:

- "*Peripherally inserted central catheter (PICC)"* if the medical record indicates that the patient had an existing PICC inserted during this admission.
  INCLUDE: Any type of PICC whether Power PICC, non-Power PICC, antimicrobial coated, and/or antithrombotic coated.
  EXCLUDE: midline catheters (some examples include: Power glide)

DATE OF INSERTION- PERIPHERALLY INSERTED CENTRAL CATHETER (PICC)

Instructions: Indicate the date of insertion in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

- *"Central venous catheter (non-dialysis)"* if the medical record indicates that the patient had an existing CVC (non-dialysis) inserted during this admission.
  INCLUDE: Med ports, Power ports, Infusa-port.
  EXCLUDE: PICCs, Midlines (some examples include: Power glide)

  DATE OF INSERTION- CENTRAL VENOUS CATHETER (NON DIALYSIS)
  Instructions: Indicate the date of insertion in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

- *"Central venous catheter for renal dialysis"* if the medical record indicates that the patient had an existing CVC for renal dialysis inserted during this admission.
  INCLUDE: Any CVC that is used for renal dialysis purposes (some examples include Vascath).
  EXCLUDE: AV fistulas, CAPD ports for dialysis, PICCs, Midlines (some examples include: Power glide)
  Note: To determine whether or not a CVC is in place for dialysis purposes, be sure to review the patient's orders and medical history to see if they require hemodialysis (HD).

  DATE OF INSERTION- CENTRAL VENOUS CATHETER FOR RENAL DIALYSIS
  Instructions: Indicate the date of insertion in the mm/dd/yyyy format. Use 01/01/1900 if the date is unknown.

Laboratory Information - Use Most Recent to the Date of Midline Insertion

Note: As a general rule, use the lab values that are distributed from the lab at your institution instead of written lab values found in physician documentation.

1. **CREATININE**

Instructions: Review the patient's laboratory data and record the most current Creatinine at the time of Midline placement. Creatinine or Serum Creatinine is usually reported as part of a basic metabolic panel. Indicate the creatinine value as a numeric only in milligrams per deciliter (mg/dL). If no creatinine value is available or the date of lab value is out of range (see exclusion below) input the number 9999 and enter the date 01/01/1900, please do not leave the field blank as this will result in missing data.
Note: Enter the closest Creatinine value prior to the Midline placement (if within 48 hours of Midline placement). If there is not a Creatinine value available within 48 hours prior to Midline placement, enter the closest value within 48 hours after Midline placement.
EXCLUDE: Lab values more than 48 hours before Midline placement or 48 hours after Midline placement.

DATE OF CREATININE

Instructions: Indicate the date of the creatinine value in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2. **HEMOGLOBIN**

Instructions: Review the patient's laboratory data and record the most current hemoglobin at the time of Midline placement. Hemoglobin (Hgb or Hb) is usually reported as part of a complete blood count (CBC). Indicate the hemoglobin value as a numeric only in grams per deciliter (g/dL). If no hemoglobin value is available or the date of lab value is out of range (see exclusion below) input the number 9999 and enter the date 01/01/1900, please do not leave the field blank as this will result in missing data.
Note: If laboratory values are available the same amount of time prior to or after Midline placement, use the value that is prior to Midline placement
EXCLUDE: Lab values more than 48 hours before Midline placement or 48 hours after Midline placement.

DATE OF HEMOGLOBIN

Instructions: Indicate the date of the hemoglobin value in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

3. **PLATELET COUNT**

Instructions: Review the patient's laboratory data and record the most current platelet count at the time of Midline placement. Platelet (Plt) counts are usually

reported as part of a complete blood count (CBC). Indicate the platelet count as a numeric only in thousands per microliter (,000/mcL). For example, a platelet count of 150,000 would be inputted as 150. If no hemoglobin value is available or the date of lab value is out of range (see exclusion below), input the number 9999 and enter the date 01/01/1900. Please do not leave the field blank as this will result in missing data.
Note: If laboratory values are available the same amount of time prior to or after Midline placement, use the value that is prior to Midline placement.
EXCLUDE: Lab values more than 48 hours before Midline placement or 48 hours after Midline placement.

DATE OF PLATELET COUNT
Instructions: Indicate the date of the platelet count in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

4. **WHITE BLOOD CELL COUNT**

Instructions: Review the patient's laboratory data and record the most current white blood cell count at the time of Midline placement. White blood cell (WBC) counts are usually reported as part of a complete blood count (CBC). Indicate the white blood cell (WBC) count as a numeric only in (K/uL). If no white blood cell count is available or the date of lab value is out of range (see exclusion below), input the number 9999 and enter the date 01/01/1900. Please do not leave the field blank as this will result in missing data.
Note: If laboratory values are available the same amount of time prior to or after Midline placement, use the value that is prior to Midline placement.
EXCLUDE: Lab values more than 48 hours before Midline placement or 48 hours after Midline placement.

DATE OF WHITE BLOOD CELL COUNT
Instructions: Indicate the date of the white blood cell count in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

5. **INR**

Instructions: Review the patient's laboratory data and record the most current International Normalized Ratio (INR) at the time of Midline placement. Indicate the INR as a numeric only. If no INR is available or the date of lab value is out of range (see exclusion below), input the number 9999 and enter the date 01/01/1900. Please do not leave the field blank as this will result in missing data.

REMINDER: If the INR is reported as a range, please enter just the numeric value. Example: Enter a reported value of ">10" as just "10".
Note: If laboratory values are available the same amount of time prior to or after Midline placement use the value that is prior to Midline placement.
EXCLUDE: Lab values more than 30 days before Midline placement or 48 hours after Midline placement.

DATE OF INR
Instructions: Indicate the date of the INR in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

6. **eGFR (ESTIMATED GLOMERULAR FILTRATION RATE)**

Instructions: Review the patient's laboratory data and record the most current eGFR at the time of Midline placement. Indicate the eGFR as a numeric only. If no eGFR is available or the date of lab value is out of range (see exclusion below), input the number 9999 and enter the date 01/01/1900. Please do not leave the field blank as this will result in missing data.
REMINDER: If eGFR is reported as a range, please enter the highest numeric value in the range. Example: Enter a reported value of ">60" as just "60", and a reported value of "<15" as just "15".
Note1: Enter the closest eGFR value prior to the Midline placement (if within 48 hours of Midline placement). If there is not an eGFR value available within 48 hours prior to Midline placement, enter the closest value within 48 hours after Midline placement.
Note2: If your hospital reports two eGFR values (one African American and one non-African American) and if race is noted in the medical record, select the corresponding value. If there is no documentation of race in the medical record, use the non-African American eGFR value.
EXCLUDE: Lab values more than 48 hours before Midline placement or 48 hours after Midline placement.

DATE OF eGFR
Instructions: Indicate the date of the eGFR in MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

7. **DID THE MEDICAL RECORD REFLECT AN INFECTION AT ANOTHER SITE (OTHER THAN BLOOD) THAT WAS CONFIRMED BY A POSITIVE CULTURE IN THE 14 DAYS PRIOR TO MIDLINE INSERTION?**

Instructions: Review the medical record to determine if an infection at another site (other than blood) that was confirmed by a positive culture in the 14 days prior to Midline placement. This question looks to answer whether the patient had any infection at a site other than a blood related infection. There are three (3) options for this question.

Note: Exclude the day of Midline placement.

INCLUDE: Any documented infection that is at another site other than blood during the period of review. An infection is considered "Active" for 14 days from the point of culture. In order to be considered an infection at another site it must be confirmed via a positive culture (example: sputum culture, urine culture, etc.), positive smear (ex: sputum, etc.), positive tip culture from a non-Midline device (example: PICC, Medport Tip, Permacath, etc.), positive Midline tip culture that is not the Midline of interest, or results obtained through molecular testing.

List of Infections (examples): (Must have a positive culture (i.e., sputum, urine, wound etc.) that confirms the infection)

Arterial or venous infection	Meningitis or vetriculitis
Breast abscess or mastitis	Myocarditis or pericarditis
Burn Infection	Necrotizing enterocolitis
Clostridium difficile infection	Oommphlalitis
Conjunctivitis	Oral Cavity Infection (e.g. thrush)
Decubitus ulcer infection	Osteomyelitis
Disc Space Infection	Other infection of the male or female reproductive tract
Ear, mastoid infection	Other infection of the lower respiratory tract
Endocarditis	Pneumonia
Endometritis	Prosthetic Joint Infection
Episiotomy Infection	Sinusitis
Eye infection, other than conjunctivitis	Skin infection
Gastroenteritis	Soft Tissue Infection
Gastrointestinal tract	Spinal abscess without meningitis

infection	
Hepatitis	Surgical Site Infection
Intraabdominal infection	Upper respiratory tract infection, pharyngitis, laryngitis, epiglottitis
Intracranial Infection	Urinary Tract Infection
Joint or Bursa Infection	Vaginal Cuff Infection
Mediastinitis	

EXCLUDE: Sepsis, septicemia, bacteremia, blood stream infection (BSI), Positive WBC found in stool sample, lactoferrin positive in stool, candida in stool as it is almost always a commensal (not pathogen), positive antibodies (ex: EBV VCA Ab IgG and Hep A Total Ab, are a few examples), viral infections, a positive sputum gram stain with no associated positive sputum culture, positive MRSA or VRE swab. A physician diagnosis or other diagnostics (ex: chest x-ray) is not enough documentation to support an infection at another site.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an infection at another site (other than blood) that was confirmed by a positive culture in the 14 days prior to Midline placement. ***Answer questions 7.1 through 7.2***
  Note: There does not need to be documentation the positive culture was treated to answer "yes" to this question.
- *"No"* if the medical record does not indicate that the patient had an infection at another site (other than blood) that was confirmed by a positive culture in the 14 days prior to Midline placement.
- *"Unknown"* if the medical record is silent as to whether the patient had an infection at another site (other than blood) that was confirmed by a positive culture in the 14 days prior to Midline placement.

7.1. DATE OF INFECTION AT ANOTHER SITE
Instructions: Review the medical record to determine the date of collection of the positive culture indicating an infection at another site during the 14 days prior to Midline placement. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
Reminder: If there is notation of more than one secondary infection during the 14 days prior to Midline placement, please enter in the date of the positive culture that is collected *closest* to the date of Midline placement.

7.2. FOR INFECTION AT ANOTHER SITE, PLEASE INDICATE THE TYPE OF INFECTION(S) THAT WAS PRESENT IN THE 14 DAYS PRIOR TO MIDLINE INSERTION? (CHECK ALL THAT APPLY)

Instructions: Review the medical record to determine the type of infection(s) present in the 14 days prior to Midline insertion. Select the type(s) of infection(s) that is/are most appropriate for the type of positive culture(s) in the medical record. A specific diagnosis is not required to make a selection for this question.
Note: If there is more than one secondary infection during the 14 days prior to Midline placement, please enter in all *types* of infections during those 14 days that are confirmed by a positive culture (not just the type of infection that corresponds to the culture collected on the date entered above).
There are ten (10) options for this question.

- "*Cellulitis*" if the medical record indicates that the individual has an infection from cellulitis present in the 14 days prior to Midline placement.
  INCLUDE: Necrotizing fasciitis that is confirmed by a positive culture in the 14 days prior to Midline placement.
- "*Endocarditis*" if the medical record indicates that the individual has an infection from endocarditis present in the 14 days prior to Midline placement.
- "*Osteomyelitis*" if the medical record indicates that the individual has an infection from osteomyelitis present in the 14 days prior to Midline placement.
- "*Pancreatitis*" if the medical record indicates that the individual has an infection from pancreatitis present in the 14 days prior to Midline placement.
- "*Peritonitis*" if the medical record indicates that the individual has an infection from peritonitis present in the 14 days prior to Midline placement.
- "*Pneumonia*" if the medical record indicates that the individual has an infection from pneumonia present in the 14 days prior to Midline placement.
- "*Surgical Site Infection*" if the medical record indicates that the individual has an infection from a surgical site infection present in the 14 days prior to Midline placement.
- "*Urinary Tract Infection*" if the medical record indicates that the individual has an infection from a urinary tract infection present in the 14 days prior to Midline placement.
- "*Other*" if the medical record indicates that the individual has an infection at other than that is listed above present in the 14 days prior to Midline placement.

  FOR OTHER, PLEASE SPECIFY

  Instructions: Use free text to indicate the site.

- "*Unknown*" if the medical record is silent as to the type of infection present in the 14 days prior to Midline placement.

Medical History

1. **DOES THE PATIENT HAVE A HISTORY (PAST/PRESENT) OF CANCER?**

Instructions: Review the medical record to determine if the patient has a past or present history of cancer. Malignant tumors (cancers) are usually named using –oma (which means tumor) as a suffix (i.e. -carcinoma, -sarcoma, -lymphoma, or –blastoma). There are three (3) options for this question.
INCLUDE: Examples include (but not limited to): malignant brain tumors, hematologic malignancies, lymphoma, leukemia, lung cancer (small cell or non-small cell), ovarian cancer, colon cancer, prostate cancer, stomach/gastric cancer, pancreas/pancreatic cancer, kidney/renal cancer, breast cancer, rectal/rectum cancer, bladder cancer, melanoma, liver cancer, uterine cancer, metastatic cancer, etc. Include suspected cancer that is confirmed during the hospital encounter.
EXCLUDE: basal cell carcinoma, non-melanoma skin cancer, squamous cell skin cancer, inflammatory myofibroplastic pseudotumor without mention of malignancy
Select one of the following:

- *"Yes"* if the medical record indicates that the patient has a history of cancer either past or present. ***Answer questions 1.1 through 1.3***
- *"No"* if the medical record indicates that the patient does not have a history of cancer either past or present.
- *"Unknown"* if the medical record is silent as to whether the patient has a history of cancer either past or present.

1.1. INDICATE THE TYPE OF CANCER(S)

Instructions: Review the medical record to determine the type(s) of cancer, indicate only primary site of the cancer and not sites of metastasis.
Select all that apply:

- *"Malignant brain tumor"* if the medical record indicates that the patient has a past/present history of malignant brain tumor. ***Answer question 1.1.1***
  INCLUDE: Chordomas, Gliomas, Glioblastoma, schwannoma, meningioma, etc.

- *"Hematologic malignancies"* if the medical record indicates that the patient has a past/present history of hematologic malignancies. ***Answer question 1.1.1***
  INCLUDE: Leukemias, Myeloma, Myelodysplastic syndrome, Multiple myeloma, sarcoma, myelofibrosis, etc.
- *"Lymphoma"* if the medical record indicates that the patient has a past/present history of lymphoma. ***Answer question 1.1.1***
  INCLUDE: Lymphomas, Hodgkin's lymphoma, non-Hodgkin's lymphomas, Waldenstrom's macroglobulinemia, etc.
- *"Lung-Small cell"* if the medical record indicates that the patient has a past/present history of lung cancer- small cell. ***Answer question 1.1.1***
  INCLUDE: Small cell lung cancer (SCLC) (not to be mistaken for squamous cell lung cancer), Oat-cell carcinoma, etc.
  Note: If the type of lung cancer is unknown, please select Lung-Non small cell.
- *"Lung-Non-small cell"* if the medical record indicates that the patient has a past/present history of lung cancer- non-small cell. ***Answer question 1.1.1***
  INCLUDE: non-small cell lung cancer (NSCLC), Non-small cancers of the lung: adenocarcinomas, epidermoid carcinoma, large cell carcinomas, squamous cell carcinoma, etc.
  Note: If the type of lung cancer is unknown, please select Lung-Non small cell.
- *"Ovarian"* if the medical record indicates that the patient has a past/ present history of ovarian cancer. ***Answer question 1.1.1***
  INCLUDE: Examples include (but not limited to): epithelial ovarian tumor, Germ cell tumor, sex cord stromal ovarian tumor, etc.
- *"Colon"* if the medical record indicates that the patient has a past/present history of colon cancer. ***Answer question 1.1.1***
  INCLUDE: Colon cancer, colorectal cancer, bowel cancer, gastrointestinal, rectal cancer, rectosigmoid cancer, etc.
- *"Prostate"* if the medical record indicates that the patient has a past/ present history of prostate cancer. ***Answer question 1.1.1***
  INCLUDE: Prostate cancer, prostate adenocarcinoma, Gleason Score X of X, etc.
  EXCLUDE: Benign prostatic hyperplasia
- *"Stomach/Gastric"* if the medical record indicates that the patient has a past/present history of stomach/gastric cancer. ***Answer question 1.1.1***
  INCLUDE: Stomach cancer, gastric cancer, spindle cell cancer, GIST tumor, etc.
- *"Pancreas/Pancreatic"* if the medical record indicates that the patient has a past/present history of pancreas/pancreatic cancer. ***Answer question 1.1.1***

INCLUDE: Pancreatic cancer, cancer of the pancreas, pancreatic adenocarcinoma, etc.

- *"Kidney"* if the medical record indicates that the patient has a past/ present history of kidney/renal cancer. ***Answer question 1.1.1***
  INCLUDE: Renal cell carcinoma (RCC), renal cell cancer, kidney cancer, renal Cancer, renal sarcoma, etc.
- *"Breast"* if the medical record indicates that the patient has a past/ present history of breast cancer. ***Answer question 1.1.1***
  INCLUDE: Breast cancer, mammary cancer, etc.
- *"Rectal/Rectum"* if the medical record indicates that the patient has a past/present history of rectal/rectum cancer. ***Answer question 1.1.1***
  INCLUDE: Rectal cancer, cancer of the rectum, etc.
- *"Bladder"* if the medical record indicates that the patient has a past/ present history of bladder cancer. ***Answer question 1.1.1***
  INCLUDE: Bladder cancer, etc.
- *"Melanoma"* if the medical record indicates that the patient has a past/ present history of melanoma. ***Answer question 1.1.1***
  INCLUDE: Melanoma, malignant melanoma, etc.
- *"Liver"* if the medical record indicates that the patient has a past/present history of liver/hepatic cancer. ***Answer question 1.1.1***
  INCLUDE: Liver cancer, hepatic carcinoma, hepatic cancer, hepatocellular carcinoma, hepatic adenocarcinoma, cholangiocarcinoma, ampullary carcinoma, etc.
- *"Uterine"* if the medical record indicates that the patient has a past/ present history of uterine cancer. ***Answer question 1.1.1***
  INCLUDE: Uterine cancer, Endometrial cancer, cervical cancer, etc.
- *"Metastatic with unknown primary"* if the medical record indicates that the patient has a past/present history of metastatic cancer with an unknown primary. ***Answer question 1.1.1***
  INCLUDE: Cancer with an unknown primary location, Metastatic Cancer with unknown origin, Original cancer location cannot be identified, etc.
- *"Other, not including basal cell"* if the medical record indicates that the patient has a past/present history of cancer not listed above, not including basal cell carcinoma. ***Answer question 1.1.1***
  INCLUDE: Cancer type not listed above, Fibrosarcoma, Squamous cell carcinoma (non-lung derived), Histiocytoma, Malignant pleural effusion without the type of cancer specified, appendiceal cancer, testicular cancer, esophageal cancer, esthesioneuroblastoma, tonsillar cancer, Kaposi Sarcoma

EXCLUDE: Basal cell carcinoma

- *"Unknown"* if the medical record is silent as to the type of cancer.

1.1.1. INDICATE CANCER TYPE

Instructions: Review the medical record to determine the type of cancer the patient has.

Select one of the following:

- *"Metastatic"* select if there is medical documentation that the patient's cancer is metastatic.
  DEFINITION: Metastatic means the spread of a disease (typically cancer) from one organ or part to another non-adjacent organ or part.
  INCLUDE: Stage 4 cancer.
- *"Not Metastatic"* select if there is medical documentation that the patient's cancer is non-metastatic.
- *"Unknown"* select of the medical record is silent regarding the type of cancer the patient had.

1.2. HAS THE PATIENT RECEIVED ANY TREATMENT RELATED TO THEIR DIAGNOSIS OF CANCER IN THE LAST SIX MONTHS?

Instructions: Review the medical record to determine if the patient has received any treatment related to their diagnosis of cancer within the six months prior to placement of the Midline of interest. This information may be found within past history & physical (H&P) notes, outpatient infusion notes, procedure notes, radiology notes, etc.

INCLUDE: Any treatment such as chemotherapy, hormonal therapy, surgery, radiation therapy, bone marrow transplant, etc. Any surgical treatment for a complication of cancer-related treatment (i.e. colostomy for radiation proctitis).

Select one of the following:

- *"Yes"* if the medical record indicates that the patient has received treatment related to their diagnosis of cancer in the six months prior to placement of the Midline of interest. ***Answer question 1.2.1***
- *"No"* if the medical record does not indicate that the patient received treatment related to their diagnosis of cancer in the six months prior to placement of the Midline of interest.
- *"Unknown"* if the medical record is silent as to whether the patient received treatment related to their diagnosis of cancer in the six months prior to placement of the Midline of interest.

1.2.1. TYPE OF CANCER TREATMENT

Instructions: Review the medical record to determine the type treatment the patient received related to their diagnosis of cancer in the last six months (i.e. six months from the date of Midline placement).

Select all that apply:

- *"Chemotherapy"* if the medical record indicates that the patient received chemotherapy within the six months prior to placement of the Midline of interest.

  INCLUDE: Therapy with any chemo agent. Examples include (but not limited to): Nitrogen mustards: mechlorethamine (nitrogen mustard), chlorambucil, cyclophosphamide (Cytoxan®), ifosfamide, and melphalan. Nitrosoureas: streptozocin, carmustine (BCNU), and lomustine. Alkyl sulfonates: busulfan. Triazines: dacarbazine (DTIC) and temozolomide (Temodar®). Ethylenimines: thiotepa and altretamine (hexamethyl-melamine). Platinum drugs: cisplatin, carboplatin, and oxalaplatin. Antimetabolites include: 5-fluorouracil (5-FU), 6-mercapto-purine (6-MP), Capecitabine (Xeloda®), Cladribine, Clofarabine, Cytarabine (Ara-C®), Floxuridine, Fludarabine, Gemcitabine (Gemzar®), Hydroxyurea, Methotrexate, Pemetrexed (Alimta®), Pentostatin, Thioguanine. Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®) Ixabepilone (Ixempra®). Vinca alkaloids: vinblastine (Velban®), vincristine (Oncovin®), and vinorelbine (Navelbine®), Estramustine (Emcyt®). Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®). Epothilones: ixabepilone (Ixempra®), Rituximab(Rituxan). Tyrosine Kinase Inhibitor: Ibrutinib (Imbruvica), Ruxolitinib(Jakafi), Imatinib (Gleevec), Inotuzumab Ozogamicin (Besponsa)
- *"Hormonal therapy"* if the medical record indicates that the patient received hormonal therapy within the six months prior to placement of the Midline of interest.

  INCLUDE: Any hormonal therapy. Examples include (but not limited to): Anti-estrogens: fulvestrant (Faslodex®), tamoxifen, and toremifene (Fareston®). Aromatase inhibitors: anastrozole (Arimidex®), exemestane (Aromasin®), and letrozole (Femara®). Progestins: megestrol acetate (Megace®). Anti-androgens: bicalutamide (Casodex®), flutamide (Eulexin®), nilutamde (Nilandron®) and Xtandi. Gonadotropin-releasing hormone (GnRH), also known as luteinizing hormone-releasing hormone (LHRH) agonists or analogs: leuprolide (Lupron®) and goserelin (Zoladex®).
- *"Surgical therapy"* if the medical record indicates that the patient received surgical therapy (billed OR time) within the six months prior to placement

of the Midline of interest.
INCLUDE: Any surgery that the patient had related to their diagnosis of cancer. This may include tumor resection, biopsies, lymph node biopsies, exploratory surgery, etc.

- *"Radiation therapy"* if the medical record indicates that the patient received radiation therapy within the six months prior to placement of the Midline of interest.
  INCLUDE: Any type of radiation therapy. Examples include (but not limited to): external-beam radiation, or internal radiation therapy (i.e. brachytherapy). Electromagnetic radiation, intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), tomotherapy, stereotactic radiation therapy, proton therapy, radioactive iodine.
- *"Bone marrow transplant"* if the medical record indicates that the patient received bone marrow transplant within the six months prior to placement of the Midline of interest.
  INCLUDE: Bone marrow transplant regardless if it is autologous or allogeneic.
- *"Other"* if the medical record indicates that the patient received a therapy not listed above within the six months prior to Midline placement.
  INCLUDE: Opdivo (Immunotherapy)
  EXCLUDE: Tacrolimus

1.3. HAS THE PATIENT HAD A HOSPITLIZATION (>24HRS) WHERE THE PRIMARY ADMISSION DIAGNOSIS WAS CANCER RELATED IN THE LAST SIX MONTHS?

Instructions: Review the medical record to determine if the patient had a hospitalization (greater than 24 hrs) where the primary admission diagnosis was cancer related in the six months prior to placement of the Midline of interest.
INCLUDE: Any hospital inpatient admission that was greater than 24 hours that had a primary admission diagnosis related to cancer or cancer treatment within the six months prior to placement of the Midline of interest.
EXCLUDE: Hospitalizations lasting less than 24 hours, Emergency Room or observation stays, or inpatient hospital admission that occurred more than six months prior to placement of the Midline of interest. Current encounter.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a hospitalization that was greater than 24 hours where the primary admission diagnosis was cancer related in the six months prior to placement of the Midline of interest.

- *"No"* if the medical record does not indicate that the patient had a hospitalization that was greater than 24 hours where the primary admission diagnosis was cancer related in the six months prior to placement of the Midline of interest.
- *"Unknown"* if the medical record is silent as to whether the patient had a hospitalization that was greater than 24 hours where the primary admission diagnosis was cancer related in the six months prior to placement of the Midline of interest.

2. **DOES THE PATIENT HAVE A HISTORY OF CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION (CLABSI) IN THE LAST THREE MONTHS?**

Instructions: Review the medical record to determine if the patient has a history of a central line associated blood stream infection (CLABSI) within the three months prior to placement of the Midline of interest.
INCLUDE: Documentation that the patient had a primary or secondary diagnosis of a central line associated blood stream infection (CLABSI) within a history and physical (H&P) or discharge summary within the three months prior to placement of the Midline of interest.
EXCLUDE: History of Bacteremia
Select one of the following:

- *"Yes"* if the medical record indicates that the patient has a history of central line associated blood stream infection (CLABSI) within the three months prior to placement of the Midline of interest. ***Answer question 2.1***
- *"No"* if the medical record indicates that the patient does not have a history of CLABSI in the three months prior to placement of the Midline of interest.
- *"Unknown"* if the medical record is silent as to whether the patient has a history of CLABSI in the three months prior to placement of the Midline of interest.

2.1. IS THERE DOCUMENTATION IN THE MEDICAL RECORD THAT THE CLABSI WAS ASSOCIATED WITH A PICC?

Instructions: Review the medical record to determine if there is documentation in the medical record that the CLABSI was associated with a PICC. This information may be found in a progress note, Infectious Disease (ID) note, or in laboratory information if a PICC tip was cultured.
INCLUDE: Any documentation that the CLABSI was due to a peripherally inserted central venous catheter (PICC). Look for documentation of PICC removal because of CLABSI.

EXCLUDE: Any infection related to another site (i.e. urinary catheter related, surgical site related, wound related, etc.). Any infection related to a venous access device that is *not a PICC* (i.e. Midline (some examples include: Power glide), central line used for dialysis, ports, etc.). Any infection related to an arterial line.

Select one of the following:

- *"Yes"* if the medical record indicates that the CLABSI was associated with a peripherally inserted central catheter (PICC).
- *"No"* if the medical record indicates that the CLABSI was not associated with a peripherally inserted central catheter (PICC).
- *"Unknown"* if the medical record is silent regarding whether or not the CLABSI was associated with a peripherally inserted central catheter (PICC).

3. **DOES THE PATIENT HAVE A HISTORY OF A DEEP VEIN THROMBOSIS (DVT) IN THE ARM OR LEG?**

Instructions: Review the medical record to determine if the patient has a past or present history of deep vein thrombosis (DVT) in the arm or leg. DVT refers to the presence a blood clot in one or more of the deep veins.

INCLUDE: Any documentation of a thrombosis or clot in a deep vein (DVT) of the arm or leg. DVT left lower extremity (LLE), DVT right lower extremity (RLE), DVT right upper extremity (RUE), DVT left upper extremity (LUE), Thrombus/ Clot in the following deep veins: subclavian, axillary, brachial, radial, ulnar, common iliac, internal iliac, external iliac, common femoral, deep femoral, femoral, popliteal, gastrocnemius, anterior tibial, soleus, peroneal, tibioperoneal, posterior tibial

EXCLUDE: Superficial vein clots (i.e. clots in the cephalic vein, median cephalic vein, basilic vein, median cubital vein, median forearm vein, greater saphenous vein, lesser saphenous vein); Clots that are not within a deep vein of the arm or leg (i.e. internal/external jugular clots, clots in central venous catheters e.g. pericatheter thrombus, hepatic/renal/ splenic/mesenteric thrombosis, etc.), fat emboli.

Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has a DVT in the arm or leg at the time of Midline placement. ***Answer question 3.1***

  INCLUDE: Documentation of acute DVT diagnosed during the day before Midline placement, the day of Midline placement, or the day after Midline placement. Documentation of chronic DVT newly diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement.

  EXCLUDE: Documentation of suspicion of DVT without test to confirm diagnosis.

- *"≤ 30 days"* if the medical record indicates that the patient had a DVT in the arm or leg in the 30 days prior to placement of the Midline of interest. ***Answer question 3.1***
  INCLUDE: Patient diagnosis and/or treatment of acute DVT within the 30 days prior to Midline placement, and the DVT was not diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"Positive History"* if the medical record indicates that the patient has a history of DVT in the arm or leg. ***Answer question 3.1***
  INCLUDE: Documentation that the patient is receiving active ongoing treatment (i.e. anticoagulant) without evidence of new thrombosis formation within the 30 days prior to placement of the Midline of interest. History of chronic and/or acute DVT that occurred greater than 30 days prior to placement of the Midline of interest.
- *"No"* if the medical record indicates the patient has no history of deep vein thrombosis in the arm or leg.
- *"Unknown"* if the medical record is silent regarding history of deep vein thrombosis in the arm or leg.

3.1. IS THERE EVIDENCE THAT THE DVT WAS ASSOCIATED WITH A PICC OR MIDLINE?

Instructions: Review the medical record to determine if there is evidence that the DVT was associated with a Midline.
INCLUDE: Any documentation that the DVT was associated with a Midline or was called "Midline-related", "catheter-associated", or "catheter-related."
EXCLUDE: Documentation that there was occlusion of the Midline catheter (i.e. intraluminal occlusion of the catheter without evidence of extraluminal), without evidence of DVT.
Select one of the following:

- *"Yes"* if the medical record indicates that the DVT was associated with a Midline.
- *"No"* if the medical record does not indicate that the DVT was associated with a Midline.
- *"Unknown"* if the medical record is silent as to whether the DVT was associated with a Midline.

4. **DOES THE PATIENT HAVE A HISTORY OF A PULMONARY EMBOLISM (PE)?**

Instructions: Review the medical record to determine if the patient has a history of pulmonary embolism (PE), which is a blood clot that has travelled to the lung. There are five (5) options for this question.
INCLUDE: Any documentation that the patient has a past or present history of pulmonary embolism or PE.
EXCLUDE: Non blood clot emboli such as septic pulmonary emboli or fat emboli.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient had a pulmonary embolism (PE) during the day before Midline placement, the day of Midline placement, or the day after Midline placement. ***Answer question 4.1***
  INCLUDE: Documentation of acute PE diagnosed during the day before Midline placement, the day of Midline placement, or the day after Midline placement, or documentation of suspicion of PE without test to confirm diagnosis during the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had a pulmonary embolism (PE) in the 30 days prior to placement of the Midline of interest and was not diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement. ***Answer question 4.1***
  INCLUDE: Patient diagnosis and/or treatment of PE within the 30 days prior to placement of the Midline of interest, and the PE was not diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"Positive History"* if the medical record indicates that the patient has a history of pulmonary embolism (PE). ***Answer question 4.1***
  INCLUDE: Documentation that the patient is receiving active ongoing treatment (i.e. anticoagulant) without evidence of new thrombosis formation within the 30 days prior to placement of the Midline of interest. History of chronic and/or acute PE that occurred greater than 30 days prior to placement of the Midline of interest.
- *"No"* if the medical record indicates the patient has no history of pulmonary embolism (PE).
- *"Unknown"* if the medical record is silent regarding history of pulmonary embolism (PE).

4.1. IS THERE EVIDENCE THAT THE PE WAS ASSOCAITED WITH A PICC OR MIDLINE?

Instructions: Review the medical record to determine if there is evidence that the PE was associated with a Midline.
INCLUDE: Any documentation that the PE was associated with a Midline or was called “Midline-related”, “catheter-associated”, or “catheter-related."
EXCLUDE: Documentation that there was occlusion of the Midline catheter (i.e. intraluminal occlusion of the catheter without evidence of extraluminal), without evidence of PE.
Select one of the following:

- *“Yes”* if the medical record indicates that the PE was associated with a Midline.
- *“No”* if the medical record does not indicate that the PE was associated with a Midline.
- *“Unknown”* if the medical record is silent as to whether the PE was associated with a Midline.

5. **DOES THE PATIENT HAVE A HISTORY OF CONGESTIVE HEART FAILURE (CHF)?**

Instructions: Review the medical record to determine if the patient has a past or present history of congestive heart failure (CHF).
INCLUDE: Examples include (but not limited to): congestive heart failure (CHF), Heart Failure (HF), Cardiomyopathy, Common cardiomyopathies include (but are not limited to): ischemic cardiomyopathy, dilated cardiomyopathy, hypertrophic cardiomyopathy, takotsubo cardiomyopathy (broken heart syndrome)
Select one of the following:

- *“Active at the time of Midline placement”* if the medical record indicates that the patient has congestive heart failure (CHF) active the day before Midline placement, the day of Midline placement, or the day after Midline placement.
  INCLUDE: Documentation of new or recent onset of HF (i.e. diagnosis of HF or an exacerbation of the patient’s known HF) that is active the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *“≤ 30 days”* if the medical record indicates that the patient had congestive heart failure (CHF) in the 30 days prior to Midline placement.
  INCLUDE: Documentation of diagnosis or exacerbation of HF within the 30 days prior MIDLINE placement, but HF is not active at the time of Midline placement.

- *“Positive History”* if the medical record indicates that the patient had a history of congestive heart failure (CHF).
  INCLUDE: Any documentation that the patient has a history of heart failure and/or the patient is receiving active ongoing treatment (i.e. medication,

pacemaker) without evidence of an acute exacerbation within the 30 days prior to placement of the Midline of interest.
- *"No"* if the medical record indicates no history of congestive heart failure (CHF).
- *"Unknown"* if the medical record is silent regarding cardiac function and/or assessment for congestive heart failure (CHF).

6. **DOES THE PATIENT HAVE A HISTORY OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)?**

Instructions: Review the medical record to determine if the patient has a past or present history of chronic obstructive pulmonary disease (COPD), which is a persistent obstruction of the airways occurring with emphysema, chronic bronchitis, or both.
INCLUDE: Examples include (but not limited to): Chronic obstructive pulmonary disease (COPD), Chronic obstructive airway disease (COAD), Chronic obstructive lung disease (COLD), chronic bronchitis, Chronic obstructive bronchitis, Chronic tracheobronchitis, Chronic airflow limitation (CAL), Chronic obstructive respiratory disease (CORD), or emphysema
EXCLUDE: Chronic pulmonary disorders such as cystic fibrosis, bronchiectasis, asthma if not listed with COPD.
Select one of the following:
- *"Active at the time of Midline placement"* if the medical record indicates that the patient has chronic obstructive pulmonary disease (COPD) active the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- INCLUDE: Documentation that the patient had an increase in the severity of airflow obstruction, decreased pulmonary function, or acute respiratory distress that was associated with the patient's COPD on the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had chronic obstructive pulmonary disease (COPD) in the 30 days prior to Midline placement.
  INCLUDE: Documentation that there was an admission for and/or treatment directed specifically toward management of chronic obstructive pulmonary disease (COPD) within the 30 days prior to Midline placement, but is not active at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of chronic obstructive pulmonary disease (COPD).
  INCLUDE: Documentation of chronic obstructive pulmonary disease (COPD) without evidence of an acute exacerbation within the 30 days prior to Midline

placement.
- *"No"* if the medical record indicates that the patient has no history of chronic obstructive pulmonary disease (COPD).
- *"Unknown"* if the medical record is silent regarding a respiratory function and/or assessment for chronic obstructive pulmonary disease (COPD).

7. **DOES THE PATIENT HAVE A HISTORY OF INFLAMMATORY BOWEL DISEASE (I.E. CHROHN'S OR ULCERATIVE COLITIS)?**

Instructions: Review the medical record to determine if the patient has a history of inflammatory bowel disease (IBD), which includes ulcerative colitis (UC) and Crohn's disease.
INCLUDE: Examples include (but not limited to): Crohn's disease, Microscopic colitis, Regional enteritis, Ulcerative colitis, Ulcerative proctocolitis.
EXCLUDE: Celiac disease, Colitis, Spastic colitis, Ischemic colitis, and / or Infectious colitis, Irritable bowel disease/syndrome (IBS), lymphocytic colitis.
Note: Irritable Bowel Syndrome (IBS) should not be confused with Inflammatory Bowel Disease (IBD).
Select one of the following:
- *"Active at the time of Midline placement"* if the medical record indicates that the patient has inflammatory bowel disease (IBD) active at the time of Midline placement.
  INCLUDE: Documentation of an aggravation of symptoms or an increase in the severity of inflammatory bowel disease (IBD) that was active the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that patient had inflammatory bowel disease (IBD) in the 30 days prior to Midline placement.
  INCLUDE: Documentation that there was an admission for and/or treatment of an acute exacerbation of inflammatory bowel disease (IBD) within the 30 days prior to Midline placement, but is not active at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of inflammatory bowel disease (IBD).
  INCLUDE: Documentation of inflammatory bowel disease (IBD) without evidence of an acute exacerbation within the 30 days prior to Midline placement.
- *"No"* if the medical record indicates that there is no history of inflammatory bowel disease (IBD).
- *"Unknown"* if the medical record is silent regarding inflammatory bowel disease (IBD).

8. **DOES THE PATIENT HAVE A HISTORY OF SERIOUS LUNG DISEASE (NOT COPD, PNEUMONIA)?**

Instructions: Review the medical record to determine if the patient has a history of serious lung disease, which includes lung diseases that are often classified as environmental or interstitial lung disease.

INCLUDE: Pneumoconiosis: black lung disease, asbestosis, pneumoconiosis due to the inhalation of silica or silicates (i.e. talc or dust); Diffuse parenchymal or infiltrative lung disease: pulmonary fibrosis, allergic pneumonia, eosinophilic pneumonia; Pleurisy, Pleural effusion, Pneumothorax, Atelectasis, Sleep apnea, tuberculosis, Basilar parenchymal disease, Pulmonary hypertension, Acute respiratory failure, Adult respiratory distress disorder (ARDS), Interstitial lung disease, Severe acute respiratory distress syndrome (SARS), cystic fibrosis, Bronchiectasis, Pulmonary tuberculosis, Chronic hypoxemic respiratory failure, CorPulmonale (pulmonary heart disease), chronic graft vs. host disease with scleodermatous, sarcoidosis if involving the lung, lupus pneumonitis if there is documentation that it is active, Lady Windermere Syndrome (Mycobacterium avium complex), septic emboli to the lung

EXCLUDE: Pneumonia, influenza, asthma, acute bronchitis, chronic obstructive pulmonary disease (COPD), histoplasmosis, emphysema, tracheobronchomalacia, persistent linear fibrosis of the lung, pulmonary vascular congestion, obesity hypoventilation syndrome (OHS), Pneumomediastinum, Chronic bronchitis, Tracheobronchitis, Valley Fever/coccidioidomycosis, Bronchiolitis obliterans organizing pneumonia (BOOP), pulmonary mucormycosis, tracheostomy.

Select one of the following

- *"Active at the time of Midline placement"* if the medical record indicates the patient has serious lung disease (not COPD or pneumonia) active at the time of Midline placement.

  INCLUDE: Documentation of a serious lung disease (not COPD or acute pneumonia) that was an active problem the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had serious lung disease (not COPD or acute pneumonia) in the 30 days prior to Midline placement.

  INCLUDE: Documentation that there was an admission for and/or management of a serious lung disease (not COPD or acute pneumonia) within the 30 days prior to Midline placement, but was not an active problem at the time of Midline placement.

- "*Positive history"* if the medical record indicates that the patient had a history of a serious lung disease (not COPD or acute pneumonia).
  INCLUDE: Documentation that there was an admission for and/or management of a serious lung disease (not COPD or acute pneumonia) within the 30 days prior to Midline placement, but was not an active problem at the time of Midline placement.
- *"No"* if the medical record indicates that there was no serious lung disease.
- *"Unknown"* if the medical record is silent serious lung disease.

9. **DOES THE PATIENT HAVE A HISTORY OF RHEUMATOID ARTHRITIS OR RELATED ARTHROPATHIES?**

Instructions: Review the medical record to determine if the patient has a history of rheumatoid arthritis or related arthropathies, which are a part of a group of disorders known as diffuse connective tissue diseases.
INCLUDE: Rheumatologic disorders, Connective tissues disorders, Rheumatoid arthritis, RA, Systemic lupus erythematous, SLE, Mixed connective tissue disorder/ disease, Scleroderma, CREST syndrome, Dermatomyositis, Poly-myositis, Vasculitis, Polymyalgia rheumatic (PMR), Sjogren's syndrome, Polyarthritis nodosa (PAN), Antineutrophil cytoplasmic antibody (ANCA)- associated vasculitis [microscopic polyangiitis (polyarteritis)], Wegener's granulomatosis (Midline granulomatosis, granulomatosis with polyangiitis, GPA), Behcet's disease, Buerger's disease (thromboangitis obliterans), Central Nervous System (CNS) vasculitis, Churg-Strauss Syndrome (Eosinophilic granulomatosis with polyangiitis, EGPA), Cryoglobulinemic vasculitis (hypersensitivity vasculits), Giant Cell Arteritis (also called Temporal or Cranial Arteritis), Henoch-Schonlein Purpura (HSP, IgA vasculitis), Rheumatoid vasculitis, Takayasu's arteritis, Polychondritis, Antisythetase syndrome, Ankylosing spondylitis, Seronegative arthritis, Psoriatic arthritis, Kawasaki disease, Inflammatory arthritis, Ehler's Danlos Syndrome, Diffuse Systemic Sclerosis, Morphea
EXCLUDE: Osteoarthritis, Gout, Fibromyalgia, Reflex sympathetic dystrophy, Sarcoidosis, Marfan's syndrome, Neuropathic arthropathy, Psoriasis (unless there is documentation of psoriatic arthritis), Raynaud's, Uticarial vasculitis, Charcot Marie Tooth Syndrome, pyogenic arthritis
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has rheumatoid arthritis or a related arthropathy active at the time of Midline placement, the day after or the day before Midline placement.
  INCLUDE: Documentation of an aggravation of symptoms or an increase in the severity of a rheumatoid arthritis or related arthropathy that was active at the

time of Midline placement.

- *"≤ 30 days"* if the medical record indicates that the patient had rheumatoid arthritis or a related arthropathy in the 30 days prior to Midline placement.
  INCLUDE: Documentation that there was an admission for and/or treatment of an aggravation of symptoms or an increase in the severity of a rheumatoid arthritis or related arthropathy within the 30 days prior to Midline placement, but was not an active problem at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of rheumatologic disorder or related arthropathy.
  INCLUDE: Documentation of a rheumatoid arthritis or related arthropathy without evidence of an acute exacerbation within the 30 days prior to Midline placement.
- *"No"* if the medical record indicates that there was no history of rheumatoid arthritis or related arthropathy.
- *"Unknown"* if the medical record is silent regarding a history of a rheumatologic disorder.

10. **DOES THE PATIENT HAVE A HISTORY OF PNEUMONIA?**

Instructions: Review the medical record to determine if the patient has a past or present history of pneumonia, which is an inflammatory condition of the lung usually due to bacteria, viruses, fungus, parasites, or other pathogenic organisms.
INCLUDE: Lobar pneumonia, bronchopneumonia, aspiration pneumonia, atypical pneumonia, post-obstructive pneumonia, community acquired pneumonia (CAP), fungal pneumonia, acute interstitial pneumonia, bronchial pneumonia, nosocomial pneumonia, healthcare associated pneumonia (HCAP), hospital-acquired pneumonia (HAP), ventilator associated pneumonia (VAP),Bronchiolitis obliterans organizing pneumonia (BOOP)
EXCLUDE: Allergic pneumonia, Eosinophilic pneumonia, pneumonitis caused by the inflammation of vapors and fumes, positive blood culture for Klebsiella pneumonia with no mention of pneumonia or suspicion of pneumonia in the medical documentation.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has pneumonia at the time of Midline placement.
  INCLUDE: Documentation that the patient had pneumonia the day before Midline placement, the day of Midline placement, or the day after Midline placement.

- *"≤ 30 days"* if the medical record indicates that the patient had pneumonia in the 30 days prior to Midline placement.
  INCLUDE: Documentation that the patient was diagnosed and/or received treatment for pneumonia within the 30 days prior to Midline placement, but was not active at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of pneumonia.
  INCLUDE: Documentation of pneumonia but acute infection has not occurred within the 30 days prior to Midline placement.
- *"No"* if the medical record indicates no history of pneumonia, no acute/active pulmonary infection, or similar statement.
- *"Unknown"* if the medical record is silent regarding pneumonia.

11. **DOES THE PATIENT HAVE A HISTORY OF A MYOCARDIAL INFARCTION (MI)?**

Instructions: Review the medical record to determine if the patient has a past or present history of myocardial infarction (MI), which is otherwise known as a heart attack.
INCLUDE: Myocardial infarction, MI, Myocardial infarction with ST elevation, STEMI, non ST elevation myocardial infarction, NSTEMI, Acute myocardial infarction, AMI, Cardiac infarction, Coronary artery embolism, Coronary artery occlusion, Coronary artery thrombus, Infarction of the heart, Infarction of the myocardium, Infarction of the ventricle, Old myocardial infarction
EXCLUDE: Angina pectoris, Unstable angina, Cardiac ischemia without meeting criteria for MI, Non-specific chest pain, Rule out (R/O) MI.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has a myocardial infarction (MI) at the time of Midline placement.
  INCLUDE: Documentation that the patient had and active or acute MI the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had a myocardial infarction (MI) in the 30 days prior to Midline placement.
  INCLUDE: Documentation of an MI that occurred within the 30 days prior Midline placement, but is not an active problem at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient has a history of myocardial infarction (MI).

INCLUDE: Documentation of an MI that occurred more than 30 days prior to placement of the Midline of interest.

- *"No"* if the medical record indicates there was no history of myocardial infarction (MI).
- *"Unknown"* if the medical record is silent regarding myocardial infarction (MI).

12. **DOES THE PATIENT HAVE A HISTORY OF SEPSIS?**

Instructions: Review the medical record to determine if the patient has a past or present history of sepsis, which is a potentially life threatening condition involving a systemic response to an infection.
INCLUDE: Diagnosis of possible sepsis, Sepsis, Severe sepsis, Septic shock, Documentation of two or more SIRS criteria by a clinician, Sepsis with a single site/source of infection (i.e. septic knee, septic arthritis), urosepsis, septicemia.
EXCLUDE: Bacteremia, septic syndrome
Note1: A positive culture is not needed to meet criteria for sepsis.
Note 2: Positive vital signs for SIRS alone, without supporting documentation by a clinician, is not enough to meet the criteria for documentation of a sepsis history.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has sepsis the day before Midline placement, the day of Midline placement, or the day after Midline placement.
  INCLUDE: Documentation that the patient had sepsis (or was septic) at the time of Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had sepsis in the 30 days prior to Midline placement.
  INCLUDE: Documentation of a sepsis diagnosis within the 30 days prior to Midline placement, but is not active at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of sepsis.
  INCLUDE: Documentation that the patient had sepsis that occurred more than 30 days prior to Midline placement.
- *"No"* if the medical record indicates there was no history of sepsis.
- *"Unknown"* if the medical record is silent regarding sepsis.

13. **DOES THE PATIENT HAVE A HISTORY OF A STROKE (CVA) OR TRANSIENT ISCHEMIC ATTACK (TIA)?**

Instructions: Review the medical record to determine if the patient has a past or present history of a stroke (CVA) or transient ischemic attack (TIA).

INCLUDE: Patients with a cerebrovascular accident (CVA), stroke, transient ischemic attack (TIA). Include stroke or CVA that is ischemic, embolic (including septic emboli to the brain), hemorrhagic (e.g. - subarachnoid hemorrhage (SAH)) or thrombotic, or spinal cord infarct.
Also include cerebral infarction without residual effects and pontine infarction.
EXCLUDE: Patients with cerebral hemorrhage caused by trauma, tumor or lesion (not hemorrhagic stroke) causing paralysis or disturbances in vision, speech or balance.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has a stroke (CVA) or transient ischemic attack (TIA) at the time of Midline placement.
  INCLUDE: Documentation that the patient had a stroke (CVA) or transient ischemic attack (TIA) the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had a stroke (CVA) or transient ischemic attack (TIA) in the 30 days prior to Midline placement.
  INCLUDE: Documentation of a stroke (CVA) or transient ischemic attack (TIA) within the 30 days prior to Midline placement, but is not active at the time of Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a history of a stroke (CVA) or transient ischemic attack (TIA).
  INCLUDE: Documentation that the patient had a stroke (CVA) or transient ischemic attack (TIA) that occurred more than 30 days prior to Midline placement.
- *"No"* if the medical record indicates there was no history of a stroke (CVA) or transient ischemic attack (TIA).
- *"Unknown"* if the medical record is silent regarding a stroke (CVA) or transient ischemic attack (TIA).

14. **DOES THE PATIENT HAVE OSTEOMYELITIS?**

Instructions: Review the medical record to determine if the patient has osteomyelitis (OM) which is infection and inflammation of the bone and/or bone marrow that is active at time of Midline placement.
INCLUDE: Osteomyelitis (OM), Chronic osteomyelitis, Acute suppurative osteomyelitis, Chronic suppurative osteomyelitis, Non-suppurative osteomyelitis, Vertebral osteomyelitis, Spinal osteomyelitis, Medullary osteomyelitis, Superficial osteomyelitis, Localized osteomyelitis, Diffuse osteomyelitis.

EXCLUDE: Septic arthritis
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has osteomyelitis at the time of Midline placement.
  INCLUDE: Documentation that the patient had osteomyelitis the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"No"* if the medical record indicates the patient does not have osteomyelitis that is active at the time of Midline placement.
- *"Unknown"* if the medical record is silent regarding osteomyelitis.

15. **DOES THE PATIENT HAVE CELLULITIS?**

Instructions: Review the medical record to determine if the patient has cellulitis, which is a skin infection that usually causes warmth, redness, swelling, and tenderness that is active at time of Midline placement.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has cellulitis the day before Midline placement, the day of Midline placement, or the day after Midline placement.
  INCLUDE: Documentation that the patient had cellulitis or necrotizing fasciitis (gangrene/myonecorsis) at the time of Midline placement.
- *"No"* if the medical record indicates the patient does not have cellulitis that is active at the time of Midline placement.
- *"Unknown"* if the medical record is silent regarding cellulitis.

16. **DOES THE PATIENT HAVE A HISTORY OF A KIDNEY TRANSPLANT?**

Instructions: Review the medical record to determine if the patient has a history of a kidney transplant.
Select one of the following:

- *"Active at the time of Midline placement"* if the medical record indicates that the patient has had a kidney transplant the day before Midline placement, the day of Midline placement, or the day after Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had a kidney transplant within the last 30 days.
- *"Positive History"* if the medical record indicates that the patient had a history of a kidney transplant.
- *"No"* if the medical record indicates there was no history of a kidney transplant.
- *"Unknown"* if the medical record is silent regarding a kidney transplant.

Social History

1. **DOES THE PATIENT HAVE A HISTORY OF ALCOHOL ABUSE?**

Instructions: Review the medical record to determine if the patient has a history of alcohol abuse. There are four (4) options for this question.
INCLUDE: Any documentation of the following: alcoholism, alcohol withdrawal, admission for acute intoxication, alcohol abuse, alcohol dependence, hazardous drinking, alcohol use disorder, binge drinking, and alcohol overuse
EXCLUDE: Social drinking, occasional alcohol use
Select one of the following:

- *"Current"* if the medical record indicates that the patient was admitted for acute intoxication and/or alcohol withdrawal or alcoholism. Also, if the medical record indicates the patient has a current problem with alcoholism.
- *"Former"* if the medical record indicates that the patient has a history of alcohol abuse or is a recovering alcoholic. Alcoholism is not a current problem.
- *"Never"* if the medical record indicates there is no evidence of alcohol abuse or patient denies history of alcohol abuse.
- *"Unknown"* if the medical record is silent as to whether the patient has a history of alcohol abuse or there is no social assessment present.

2. **DOES THE PATIENT HAVE A HISTORY OF INTRAVENOUS (IV) DRUG ABUSE?**

Instructions: Review the medical record to determine if the patient has a history of intravenous (IV) drug abuse (i.e. heroin, cocaine, etc.). There are four (4) options for this question.
INCLUDE: Intravenous injection of any drug not medically prescribed (i.e. heroin, cocaine, etc.), any documentation of IV drug abuse
EXCLUDE: IV therapy prescribed for medical reasons
Select one of the following:

- *"Current"* if the medical record indicates that the patient has received treatment for acute IV drug overdose or IV drug withdrawal is a problem during the current admission. Also include documentation that states there is a current problem with IV drug abuse.

- *"Former"* if the medical record indicates that the patient has a history of IV drug abuse but it is not a current problem.
- *"Never"* if the medical record indicates that there is no IV drug use, or patient denies history of IV drug use.
- *"Unknown"* if the medical record is silent as to whether the patient has a history of IV drug abuse.

3. **DOES THE PATIENT HAVE A HISTORY OF TOBACCO USE?**

Instructions: Review the medical record to determine if the patient has a history of tobacco use (i.e. nicotine). There are four (4) options for this question.
INCLUDE: Any form of tobacco products: cigarettes, cigars, chew, etc. This includes smoking, chewing, snuffing, or dipping tobacco. To be considered a "former" smoker, there must be documentation that states the patient quit smoking prior to the admission of interest.
EXCLUDE: Marijuana, electronic cigarettes, second hand smoking
Select one of the following:

- *"Current"* if the medical record indicates that the patient is currently using tobacco products.
- *"Former"* if the medical record indicates that the patient has a history of tobacco use.
- *"Never"* if the medical record indicates no smoking/ tobacco use, or patient denies history of tobacco use.
- *"Unknown"* if the medical record is silent as to whether the patient has a history of tobacco use.

Obstetrical History

1. **DOES THE PATIENT HAVE AN OBSTETRICAL HISTORY?**

Instructions: Review the medical record to determine if the patient has an obstetrical (i.e. female reproductive/pregnancy) history. Medical documentation for obstetrics and gynecology may include the TPAL and/or the GPA system used to describe the patient's obstetrical history.

T = term births
P = preterm births (prior to 37 weeks gestation)

A=abortions
L=living children

G = gravida (number of pregnancies)
P = para (number of births of viable offspring)
A or AB = abortus (abortions)

INCLUDE: Individuals that have had a pregnancy (this includes stillborn infants/ spontaneous abortions).
EXCLUDE: Individuals that have not had a pregnancy, Medical documentation states the patient has children but does not specify an obstetrical history
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an obstetrical history. ***Answer questions 1.1 through 1.4***
- *"No"* if the medical record indicates that the patient is male or does not have an obstetrical history (as described above).
- *"Unknown"* if the medical record is silent regarding whether or not the patient has an obstetrical history.

1.1 IS THE PATIENT POST-DELIVERY ≤ 4 WEEKS?
Instructions: Review the medical record to determine if the patient delivered within four weeks prior to Midline placement.
INCLUDE: Delivery within the past 4 weeks. Vaginal delivery and Cesarean deliveries regardless if carried to full term, Elective or Spontaneous abortions, pre-mature delivery, delivery of a still born, full term delivery
EXCLUDE: Individuals with tubal pregnancy, individuals diagnosed with hydatidiform mole or molar pregnancy
Select one of the following:

- *"Yes"* if the medical record indicates that there was a delivery that occurred within 4 weeks prior to Midline placement.
- *"No"* if the medical record indicates that the patient was not post-delivery, or delivery occurred greater than 4 weeks prior to Midline placement.
- *"Unknown"* if the medical record is silent regarding whether the patient is post-delivery less than or equal to 4 weeks.

1.2 DOES THE PATIENT HAVE A HISTORY OF UNEXPLAINED STILLBORN INFANT(S)?

Instructions: Review the medical record to determine if the patient had a history of unexplained stillborn infant (i.e., birth of a dead fetus for unknown reasons).
INCLUDE: Still birth reported in the medical record.
EXCLUDE: Reports of voluntary abortions or spontaneous abortions before 20 weeks of gestation.
Select one of the following:

- *"Yes"* if the medical record indicates a history of unexplained stillborn.
- *"No"* if the medical record indicates that there was no history of unexplained stillborn.
- *"Unknown"* if the medical record is silent regarding the patient's history of still born.

1.3 DOES THE PATIENT HAVE A HISTORY OF SPONTANEOUS ABORTIONS?

Instructions: Review the medical record to determine if the patient has a history of three or more spontaneous abortions (i.e., termination of pregnancy before the fetus reaches viable age that occurs without apparent cause).
INCLUDE: History of three (3) or more spontaneous abortions or miscarriages. Include missed abortions (when the fetus has died before the completion of the 20^{th} week of gestation, but the products of conception are retained in uterus for 8 weeks or longer).
EXCLUDE: Medical record reports less than 3 spontaneous abortions, or only induced or elective abortions.
Select one of the following:

- *"Yes"* if the medical record indicates three (3) or more spontaneous abortions that were unaided or without apparent cause.
- *"No"* if the medical record indicates that there was no history of spontaneous abortion.
- *"Unknown"* if the medical record is silent regarding the patient's history of spontaneous abortions.

1.4 DOES THE PATIENT HAVE A HISOTRY OF PREMATURE BIRTH WITH TOXEMIA OR GROWTH RESTRICTED INFANT?

Instructions: Review the medical record to determine if the patient has a history of premature birth (i.e., before 37 weeks gestation) with toxemia (i.e., preeclampsia or pregnancy-induced hypertension with the presence of excess protein in the urine) or growth restricted infant (i.e. infant less than 5 pounds 8 ounces or 2500 grams) whether vaginal or cesarean delivery and whether or not the pregnancy was carried to full term.

INCLUDE: Premature delivery and documented preeclampsia and/or seizures proceeding, during or within 2 weeks of delivery; or if the patient has an obstetrical history that includes delivery of a low-birth-weight baby whether or not the pregnancy was carried to full term. Individuals diagnosed with hemolysis, elevated liver enzymes, and low platelet count (HELLP syndrome).
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a history of premature birth with toxemia or growth restricted infant (as described above).
- *"No"* if the medical record indicates there was no history of premature birth with toxemia or growth restricted infant.
- *"Unknown"* if the medical record is silent regarding the patient's history of premature birth with toxemia or growth restricted infant.

Surgical History

1. **HAS THE PATIENT HAD AN INPATIENT SURGERY FOR ANY REASON?**

Instructions: Review the medical record to determine if the patient had an inpatient surgery for any reason. Inpatient surgery is an operative procedure that requires hospitalization postoperatively.
Note: If the patient has laparoscopic and/or arthroscopic surgery while an inpatient, please count this as inpatient surgery only.
INCLUDE: Any procedure that is billed Operating Room (OR) time during an inpatient hospitalization.
EXCLUDE: Procedures that are not billed OR time.
Select one of the following:

- *"Within the last 30 days"* if the medical record indicates surgery that required a hospital stay within 30 days prior to Midline placement, whether or not the surgery was initially performed in an inpatient setting. Select this option if the surgery was completed on the same date as Midline placement, but it was prior to Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates a history of surgery that required a hospital stay more than 30 days and up to 1 year prior to Midline placement, whether or not the surgery was performed in an inpatient setting.

- *"No"* if the medical record indicates the patient has no history of surgery with hospital stay in the past year.
- *"Unknown"* if the medical record is silent regarding surgery with hospital stay in the last year.

2. **HAS THE PATIENT HAD AN OUTPATIENT LAPAROSCOPIC SURGERY?**

Instructions: Review the medical record to determine if the patient had an outpatient laparoscopic surgery (i.e. use of laparoscope to view the operative field). A few examples of laparoscopic surgery may include cholecystectomy, appendectomy, female sterilization procedures, etc.

Note: If laparoscopic surgery is done while inpatient, include this as inpatient surgery only.

INCLUDE: All outpatient laparoscopic surgeries.

Select one of the following:

- *"Within the last 30 days"* if the medical record indicates a surgery involving laparoscopy within the 30 days prior to Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates a surgery involving laparoscopy more than 30 days and up to 1 year prior to Midline placement.
- *"No"* if the medical record indicates the patient has no history of surgery within the last year.
- *"Unknown"* if the medical record is silent regarding history of laparoscopic surgery within the last year.

3. **HAS THE PATIENT HAD AN OUTPATIENT ARTHROSCOPIC SURGERY?**

Instructions: Review the medical record to determine if the patient had an outpatient arthroscopic surgery (i.e. use of fiber optic scope to visualize the interior of a joint).

INCLUDE: All outpatient arthroscopic surgeries.

Select one of the following:

- *"Within the last 30 days"* if the medical record indicates the patient had arthroscopic surgery, within 30 days prior to Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates the patient had arthroscopic surgery more than 30 days and up to 1 year prior to Midline placement.
- *"No"* if the medical record indicates the patient has no history of arthroscopic surgery within the last year.
- *"Unknown"* if the medical record is silent regarding history of arthroscopic surgery within the last year.

4. **HAS THE PATIENT HAD AN OUTPATIENT SURGERY (NOT LAPAROSCOPIC OR ARTHROSCOPIC)?**

Instructions: Review the medical record to determine if the patient had outpatient surgery (i.e. no overnight stay) that is not arthroscopic or laparoscopic.
INCLUDE: All same day surgeries and procedures that involve anesthesia or conscious sedation and meets the project definition of surgery (Billed OR time). May include cataract surgery.
EXCLUDE: Laparoscopy, arthroscopy, oral surgery performed in a dental office, cardiac catheterization (if not considered Billed OR time), colonoscopy (if not considered Billed OR time), or any procedures performed under local anesthetic.
Select one of the following:

- *"Within the last 30 days"* if the medical record indicates the patient had out-patient surgery within 30 days prior to Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates the patient had an outpatient surgery more than 30 days and up to 1 year prior to Midline placement.
- *"No"* if the medical record indicates the patient has no history of outpatient surgery within the last year.
- *"Unknown"* if the medical record is silent regarding history of outpatient surgery within the last year.

Mobility

1. **HAS THE PATIENT HAD AN IMMOBILIZING PLASTER CAST?**

Instructions: Review the medical record to determine if the patient had an immobilizing plaster cast on one or more lower extremity (i.e. Right lower extremity (RLE), Left lower extremity (LLE)).
INCLUDE: Any cast or brace used to immobilize a lower extremity/extremities or pelvic region. Include any immobilizing (i.e. inhibits ambulation) cast or brace, regardless if it comes above the knee or below the knee.
EXCLUDE: Upper extremity casts, Braces that allow for full range of motion (i.e. not immobilizing); Metatarsal boot; Waffle boot.
Select one of the following:

- *"Active at time of Midline placement"* if the medical record indicates that the patient had an immobilizing plaster cast at the time of Midline placement.

- *"≤ 30 days"* if the medical record indicates that the patient had an immobilizing plaster cast within 30 days of Midline placement, but the patient did not have the cast at the time of Midline placement.
- *"No"* if the medical record indicates the patient was ambulatory or without a lower extremity plaster cast, or the cast was in place more than 30 days prior to Midline placement.
- *"Unknown"* if the medical record is silent regarding whether or not the patient had a cast.

2. **HAS THE PATIENT HAD PARALYSIS?**

Instructions: Review the medical record to determine if the patient had paralysis (i.e., permanent or temporary loss of muscle function) of one or more extremities (limbs).
INCLUDE: Any documentation that the patient had paralysis that affected the patient's mobility. Terms may include: Monoplegia, Diplegia, Paraplegia, Triplegia, Quadriplegia, Hemiplegia, Quadraparesis, Functional quadriplegia, Paraparesis
EXCLUDE: Hemiparesis, temporary paralysis due to a paralytic (e.g., Nimbex)
Select one of the following:

- *"Active at time of Midline placement"* if the medical record indicates that the patient had paralysis at the time of Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had paralysis within 30 days of Midline placement, but the patient did not have paralysis at the time of Midline placement.
- *"No"* if the medical record indicates that the patient had no paralysis.
- *"Unknown"* if the medical record is silent regarding whether or not the patient had paralysis.

3. **HAS THE PATIENT HAD SPINAL CORD INJURY WITH PARALYSIS?**

Instructions: Review the medical record to determine if the patient had a new spinal cord injury with paralysis (i.e., permanent or temporary loss of muscle function).
Patients with paralysis due to spinal cord injury are usually classified as paraplegic (i.e., paralysis of the lower body involving both legs), or quadriplegic (paralysis of all four extremities).
INCLUDE: Patient with paraplegia or quadriplegia due to a new traumatic spinal cord injury and/or spinal lesions/tumors (e.g., transverse myelitis).
Select one of the following:

- *"Active at time of Midline placement"* if the medical record indicates that the patient had a new spinal cord injury with paralysis at the time of Midline placement (day before, the day of or the day after Midline placement).

- *"≤ 30 days"* if the medical record indicates that the patient had a new spinal cord injury with paralysis within 30 days of Midline placement.
- *"No"* if the medical record indicates that the patient had no new spinal cord injury with paralysis, or the spinal cord injury (with paralysis) occurred more than 30 days prior to the Midline placement.
- *"Unknown"* if the medical record is silent regarding whether the patient had a new spinal cord injury with paralysis.

4. **HAS THE PATIENT HAD A FRACTURE OF THE HIP/PELVIS/LEG?**

Instructions: Review the medical record to determine if the patient had a fracture (i.e., break in the bone) of the hip, pelvis, and/or leg. Types of fractures include greenstick, displaced, incomplete, complete, comminuted, segmental, butterfly, spiral, and hairline.

INCLUDE: Fractures of the hip usually involve the head of the femur (greater trochanter) and the acetabulum. Fractures of the pelvis includes the right and left hip bones (each made up of an ilium, ischium, and pubis), the sacrum, and the coccyx. Fractures of the leg may include the femur, patella, lateral and medial condyle, tibia, and fibula. Malleolus fracture.

EXCLUDE: fractures of the foot (i.e., metatarsal fracture, calcaneus fracture)

Select one of the following:

- *"Active at time of Midline placement"* if the medical record indicates that the patient had a fracture of the hip, pelvis, and/or leg at the time of Midline placement.
- *"≤ 30 days"* if the medical record indicates that the patient had a hip, pelvis, and/or leg fracture within 30 days of Midline placement but is not active at the time of Midline placement.
- *"No"* if the medical record indicates no history of fracture or similar statement.
- *"Unknown"* if the medical record is silent regarding patient history of fracture of the hip, pelvis, and/or leg.

5. **HAS THE PATIENT HAD ELECTIVE HIP OR KNEE REPLACEMENT?**

Instructions: Review the medical record to determine if the patient had an elective (i.e., planned) hip or knee replacement surgery.

Note: The term "elective" is used to define a surgery that was scheduled in advance because it does not involve a medical emergency.

INCLUDE: Elective total hip replacement (THR), Elective total knee replacement (TKR), Partial hip replacement, Hip resurfacing

EXCLUDE: Above the knee amputation (AKA)

Select one of the following:

- "*Within 30 days"* if the medical record indicates that the patient had elective hip or knee replacement surgery within 30 days of Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates that the patient had hip or knee replacement surgery more than 30 days and up to 1 year prior to Midline placement.
- *"No"* if the medical record indicates no hip or knee replacement surgery, or if the surgery occurred greater than 1 year prior to Midline placement.
- *"Unknown"* if the medical record is silent regarding elective surgery of the hip or knee.

6. **HAS THE PATIENT HAD A TRAUMA REQUIRING HOSPITALIZATION?**

Instructions: Review the medical record to determine to determine if the patient had trauma requiring hospitalization.

Note: Hip, pelvis, and/or leg fractures should be captured above in the hip, pelvis, or leg fracture question.

INCLUDE: Hospital admission due to high intensity impact events including, but not limited to, motor vehicle accident (MVA), trauma related to military service, burns, gunshot wounds, or near drowning. Traumatic events that are similar in intensity to a recent stroke or acute spinal cord injury should be captured by this question.

Examples include blunt trauma to an organ requiring surgery (i.e., splenectomy, aortic rupture, etc.) or multiple bone fractures that may or may not require surgery that occurred because of a high velocity impact.

EXCLUDE: Mechanical falls, falls out of bed even with one or more broken bones.

Select one of the following:

- "*Within 30 days"* if the medical record indicates that the patient had a trauma related admission that occurred within 30 days prior to Midline placement.
- *"> 30 days to 1 year"* if the medical record indicates that the patient had a trauma related admission more than 30 days and up to 1 year prior to Midline placement.
- *"Positive History"* if the medical record indicates that the patient had a trauma related admission more than 1 year prior to Midline placement.
- *"No"* if the medical record indicates no history of trauma or similar statement.
- *"Unknown"* if the medical record is silent regarding patient history of trauma.

7. **HAS THE PATIENT BEEN IMMOBILIZED > 72 HOURS DUE TO BED REST OR PARALYSIS?**

Instructions: Review the medical record to determine if the patient had been immobilized greater than (>) 72 hours due to bed rest (i.e., bed bound) or paralysis.

Note: If the patient was able to ambulate to the restroom and back, even with assistance, they would not be considered immobilized.
INCLUDE: Patients who have been on best rest for more than 72 hours prior to Midline placement. Include quadriplegics.
EXCLUDE: Anyone who can ambulate to the bathroom. Bilateral amputees should not be considered "immobile."
Select one of the following:

- *"Active at time of Midline placement"* if the medical record indicates that the patient was immobilized greater than (>) 72 hours prior to Midline placement.
- *"No"* if the medical record indicates no immobilization for greater than (>) 72 hours or similar statement.
- *"Unknown"* if the medical record is silent about whether the patient was immobilized for > 72 hours prior to admission.

8. **AT THE TIME OF MIDLINE PLACEMENT, DOES THE PATIENT HAVE AN ACTIVE ORDER FOR BED REST?**

Instructions: Review the medical record to determine if the patient had an active order for bed rest (i.e., extended period of recumbence) at the time of Midline placement.
INCLUDE: Bed rest, strict bed rest, do not ambulate orders.
EXCLUDE: Ambulating patients, up ad lib, suspended orders for bed rest, bed rest orders for limited amount of time (including 2, 4, or 6 hrs.) post procedure, temporary bed rest orders (ex: bed rest x2 hours).
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an active order for bed rest at the time of Midline placement.
- *"No"* if the medical record indicates no active order for bed rest.
- *"Unknown"* if the medical record is silent about bed rest or activity orders.

9. **HOW MANY BRADEN ACTIVITY SCORES WERE DOCUMENTED ON THE DAY OF MIDLINE INSERTION?**

Instructions: Review the medical record to determine how many Braden Activity Scores were documented on the day of Midline insertion.
Select one of the following:

- *"N/A (Do not collect Braden Scores)"* select if your site does not collect Braden activity scores.
- *"0 (Collect Braden but no score available)"* select if your site collects Braden activity scores, but you are unable to view the actual score or if a Braden activity

score is unavailable for the day of Midline placement as the patient is not in the hospital.

- *"1"* if the medical record reflects one Braden activity score on the day (calendar day) of Midline placement. ***Answer 9.1***
- *"2"* if the medical record reflects two Braden activity scores on the day (calendar day) of Midline placement. ***Answer 9.1***
- *"3"* if the medical record reflects three Braden activity scores on the day (calendar day) of Midline placement. ***Answer 9.1***
- *"4"* if the medical record reflects four Braden activity scores on the day (calendar day) of Midline placement. ***Answer 9.1***
- *"5"* if the medical record reflects five Braden activity scores on the day (calendar day) of Midline placement. ***Answer 9.1***
- *"6"* if the medical record reflects six Braden activity scores on the day (calendar day) of Midline placement. ***Answer 9.1***

9.1 BRADEN ACTIVITY LEVEL/SCORE

Instructions: Review the medical record to determine the Braden Activity Score that was documented on the day of Midline insertion.

Select one of the following:

- "*Bedfast (1)*" select if the Braden activity score is indicated as 1- Bedfast.
- "*Chairfast (2)"* select if the Braden activity score is indicated as 2 - Chairfast.
- "*Walks Occasionally (3)"* select if the Braden activity score is indicated as 3 - Walks Occasionally.
- "*Walks Frequently (4)"* select if the Braden activity score is indicated as 4 - Walks Frequently.
- "*Unknown*" select if the medical record is silent regarding the Braden activity score.

10. **HOW MANY BRADEN ACTIVITY SCORES WERE DOCUMENTED ON THE DAY AFTER MIDLINE PLACEMENT?**

Instructions: Review the medical record to determine how many Braden Activity Scores were documented on the day after Midline insertion.

Select one of the following:

- *"N/A (Do not collect Braden Scores)"* select if your site does not collect Braden activity scores.
- *"0 (Collect Braden but no score available)"* select if your site collects Braden activity scores, but you are unable to view the actual score or if a Braden activity

score is unavailable for the day after Midline placement as the patient is not in the hospital.

- *"1"* if the medical record reflects one Braden activity score on the day after (calendar day) Midline placement. ***Answer 10.1***
- *"2"* if the medical record reflects two Braden activity scores on the day after (calendar day) Midline placement. ***Answer 10.1***
- *"3"* if the medical record reflects three Braden activity scores on the day after (calendar day) Midline placement. ***Answer 10.1***
- *"4"* if the medical record reflects four Braden activity scores on the day after (calendar day) Midline placement. ***Answer 10.1***
- *"5"* if the medical record reflects five Braden activity scores on the day after (calendar day) Midline placement. ***Answer 10.1***
- *"6"* if the medical record reflects six Braden activity scores on the day after (calendar day) Midline placement. ***Answer 10.1***

10.1 BRADEN ACTIVITY LEVEL/SCORE

Instructions: Review the medical record to determine the Braden Activity Score that was documented on the day after Midline insertion.

Select one of the following:

- "*Bedfast (1)*" select if the Braden activity score is indicated as 1- Bedfast.
- "*Chairfast (2)"* select if the Braden activity score is indicated as 2 - Chairfast.
- "*Walks Occasionally (3)"* select if the Braden activity score is indicated as 3 - Walks Occasionally.
- "*Walks Frequently (4)"* select if the Braden activity score is indicated as 4 - Walks Frequently.
- "*Unknown*" select if the medical record is silent regarding the Braden activity score.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the baseline data forms or if you would like to remove this form.

Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to remove this form. ***Answer question 1.1 through 1.2***
- *"No"* if you do not have any notes that you would like to include or you do not want to remove this form.

1.1 ABSTRACTOR NOTES
Instructions: Use free text to input your notes.
Important: Do not enter any PHI (Protected Health Information)

1.2 DO YOU WANT TO EXCLUDE THIS FORM?
Instructions: This question will default to "No". If you would like to exclude/remove this form you must manually change your answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude/remove this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would like to include this form in the data analysis. Note: This is the default.

1.2.1 ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM? IF YES, PLEASE ENTER THE REASON FOR FORM REMOVAL IN THE ABSTRACTOR NOTES SECTION ABOVE.

- *"Yes"* if you are sure you would like to exclude/remove this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you are sure you would like to include this form in the data analysis. Note: This is the default.

30-Day Follow Up (Midline)

Follow-Up Form: Period of Review

Instructions: The period of review will be automatically calculated by the dates you input in the database. The information below is for reference.

For the 30-day follow-up form, you will review the medical record for information from the day of Midline placement until:

- Midline removal (if Midline was removed prior to day 30)
  OR
- Day 30 post Midline placement (if Midline still in place)

The 30-day medical record review must occur 30 days after the date of Midline placement, or within the 7-day leeway window. Please note that if the 7-day leeway window is used (will allow an extra 7 days beyond the end of the cycle for the completion of data collection), only include information from the date of Midline placement until day 30.

Patient Status

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

1. **DATE OF MIDLINE PLACEMENT**

Instructions: Indicate the date that the Midline of interest was placed. Indicate the date in the MM/DD/YYYY format.
Note: This field is required, as it is used to generate the date ranges in the following pages.

2. **THIS IS SUCCESSFUL MIDLINE #_____ON THIS DATE.**

Instructions: Review the medical record to determine which Midline is entered that corresponds to the date of index placement.

Note 1: The default will always be one; however, if this is the second Midline inserted on the same date indicated above then you must manually change the entry using the drop-down box.

Note 2: Only enter Midlines that were entered into the HMS database. Example, if an individual at your institution had two Midlines inserted on the same date and only one of these resulted in entry into the Midline database you would indicate this as Midline #1. If both Midlines were entered into the HMS database, then the first would Midline #1 and the second would be Midline #2.

Select one of the following:

- *"1"* if the Midline indicated above is the first Midline inserted on the date indicated above. Note: This is the default answer.
- *"2"* if the Midline indicated above is the second Midline inserted on the date indicated above.
- *"3"* if the Midline indicated above is the third Midline inserted on the date indicated above.
- *"4"* if the Midline indicated above is the fourth Midline inserted on the date indicated above.
- *"5"* if the Midline indicated above is the fifth Midline inserted on the date indicated above.

3. **IS THERE DOCUMENTATION IN THE MEDICAL RECORD THAT THE MIDLINE HAS BEEN REMOVED WITHIN 30 DAYS POST-MIDLINE PLACEMENT?**

Instructions: Review the medical record to determine if the Midline of interest has been removed within the 30-day follow-up period (i.e., from the day of Midline placement until day 30 post-Midline placement).

INCLUDE: Any documentation of Midline removal regardless of reason.

Note 1: If the Midline of interest was removed and a subsequent Midline had been placed, you would still answer "Yes" that the Midline had been removed.

Note 2: If the patient expired while the Midline was in place, this would count as a Midline removal.

Note 3: If there is a discharge order from the inpatient hospitalization when the Midline of interest was placed that specifically says "remove Midline" without further documentation of the actual Midline removal, you would answer "Yes" that the Midline had been removed.

Select one of the following:

- *"Yes"* if the medical record indicates that the Midline has been removed within the 30-day follow up period. ***Answer questions 3.1 through 3.2***
- *"No"* if the medical record does not indicate that the Midline has been removed within the 30-day follow up period.

3.1 DATE OF MIDLINE REMOVAL

Instructions: Review the medical record to determine the date of Midline removal. Indicate the date removed in the MM/DD/YYYY format. If the medical documentation is not specific about the date/time of actual removal, but it is stated that the Midline is no longer in place, please do the following: ascertain the date in which it is known via the medical documentation that the Midline is present. Compare this to the date in which you have documentation that the Midline is no longer present but you are unable to determine the actual date of removal. Enter the Midline removal date as the date that is in the middle of these two known dates. Then please indicate this in the abstractors notes section.
Note: If patient expired while the Midline was in place, use the date of death as the date of Midline removal.

3.2 REASON(S) FOR REMOVAL

Instructions: Review the medical record to determine the documented reason(s) for removal of the Midline. Midlines may be removed for various reasons such as discharge from the hospital, due to a complication, or the Midline may no longer be indicated (i.e., do not need it for infusion of medications any longer).
Select all that apply:

- *"Discharge"* if the medical record indicates that the Midline was removed due to patient being discharged from the hospital with no further requirements for IV access.
  INCLUDE: Midline removal due to patient discharge, regardless of if the patient was discharged home, to another hospital, assisted living, skilled nursing facility, sub-acute rehab, inpatient hospice, prison, inpatient rehab, psychiatric facility.
- *"Complication"* if the medical record indicates the Midline was removed due to a complication. ***Answer question 3.2.1***
  INCLUDE: Suspected line-related bacteremia, confirmed line-related bacteremia, suspected line-related fungemia, confirmed line-realted fungemia, suspected device-related blood stream infection, confirmed device-related blood stream infection, suspected line sepsis, confirmed line sepsis,

suspected DVT, confirmed DVT, suspected PE, confirmed PE, difficulty with blood collection, difficulty infusing, mechanical issues with the Midline (i.e. kinking, coiling, breakage, etc.), occlusion or occlusive catheter thrombosis, exit site problems (such as blood or serous discharge form catheter site), catheter migration, malposition, infiltration, leaking at insertion site, thrombophlebitis.

- *"No Longer Indicated"* if the medical record indicates the Midline was removed because it was no longer clinically indicated.
  INCLUDE: Midline removal because it was no longer indicated (i.e., no longer needed). Midline no longer needed for medication administration, and/or no longer needed for blood collection, and/or Midline removed for a "Line Holiday". Midline removal to change number of lumens.
- "*Accidental removal*" if the medical record indicates the Midline was removed because it was accidentally pulled out by the patient or caregiver, for example was caught on the bed or IV pole, etc.
  INCLUDE: Midline removal where patient or family accidentally or purposefully pulling out line.
- "*Dislodgement*" if the medical record indicates the Midline was removed because it became dislodged and resulted in removal.
  INCLUDE: Midline dislodgement from patient accidentally pulling on the line that results in the line needing to be removed.
- "*Death (Complete Death Form)"* if the medical record indicates the Midline was removed due to the patient's death. Please complete the death form.
- "*Treatment Discontinued*" if the medical record indicates the Midline was removed because the patient's treatment was discontinued/stopped.
  INCLUDE: Midline removal because TPN discontinued.
- *"Other"* if the medical record indicates the Midline was removed for a reason not listed above.

  FOR OTHER, PLEASE SPECIFY

  Instructions: Indicate the reason for Midline removal, not listed above. Use free text.
- *"Unknown"* if the medical record was silent as to the reason that caused the Midline to be removed.

3.2.1 SPECIFY THE COMPLICATION

Instructions: Review the medical record to determine the type of complication(s) the patient had that resulted in removal of the Midline. Select all that apply:

- "*Suspected Line Bacteremia"* if at the time of Midline removal, the medical record documentation indicates that the Midline was removed due to a suspected bacteremia related to the midline.
  INCLUDE: Midline removal where the decision for removal was due to suspected line-related bacteremia or line-related fungemia.
- "*Confirmed Line Bacteremia"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a confirmed line-related bacteremia or line-related fungemia.
  INCLUDE: Midline removal due to a confirmed bacteremia.
- "*Suspected Device-Related Blood Stream Infection"* if at the time of Midline removal, the medical record documentation indicates that the Midline was removed due to a suspected device-related blood stream infection.
  INCLUDE: Midline removal where the decision for removal was due to suspected device-related blood stream infection. ***Answer question 3.2.1.1***
- "*Confirmed Device-Related Blood Stream Infection"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a confirmed device-related blood stream infection.
  INCLUDE: Midline removal due to a confirmed device-related blood stream infection.
- "*Suspected Line Sepsis"* if at the time of Midline removal, the medical record documentation indicates that the Midline was removed due to a suspected line sepsis.
  INCLUDE: Midline removal where the decision for removal was due to suspected line sepsis
- "*Confirmed Line Sepsis"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a confirmed line sepsis
  INCLUDE: Midline removal due to a confirmed line sepsis
- *"Bacteremia Unrelated to Line"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a bacteremia unrelated to the line.
- *"Suspected DVT"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a suspected deep vein thrombosis (DVT).
  INCLUDE: Midline removal due to a suspected deep vein thrombosis (DVT) or rule out DVT. Also, Midline removal due to suspected DVT if a

confirmation test had been ordered, but the results are pending and/or inconclusive.
EXCLUDE: Suspected clots (i.e., thrombus) within the Midline catheter (i.e., intraluminal occlusion of the catheter without evidence of extraluminal). Superficial thrombophlebitis (i.e., superficial vein clots - clots in the cephalic vein, median cephalic vein, basilic vein, median cubital vein, median forearm vein, greater saphenous vein, lesser saphenous vein)

- *"Confirmed DVT"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a confirmed deep vein thrombosis (DVT).
  INCLUDE: Midline removal due to DVT, and DVT has been confirmed through diagnostic testing such as venogram, ultrasound/doppler, CT, MRI.
  EXCLUDE: Clots (i.e., thrombus) within the Midline catheter (i.e., intraluminal occlusion of the catheter without evidence of extraluminal occlusion). Superficial thrombophlebitis (i.e., superficial vein clots - clots in the cephalic vein, median cephalic vein, basilic vein, median cubital vein, median forearm vein, greater saphenous vein, lesser saphenous vein)
- *"Suspected PE"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to suspected pulmonary embolism (PE).
  INCLUDE: Midline removal due to suspected pulmonary embolism (PE) or rule out PE. Also, Midline removal due to suspected PE if a confirmation test has been ordered, but the results are pending and/or inconclusive.
- *"Confirmed PE"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a confirmed pulmonary embolism (PE).
  INCLUDE: Midline removal due to confirmed pulmonary embolism (PE), with PE confirmed per CT, MRI, Ventilation Perfusion (VQ) scan, and/or pulmonary angiogram.
- *"Difficulty with Blood Collection"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to difficulty with blood collection.
  INCLUDE: Midline removal due to difficulty with blood collection or blood sampling, which may include difficulty drawing blood from one or

more ports/lumens of the Midline. Documentation of no blood return.

- *"Difficulty Infusing"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to difficulty infusing.
  INCLUDE: Midline removal due to difficulty infusing fluids and/or medications. This may include documentation that the lumen(s) are unable to be flushed (i.e., unable to push medicine or fluids into Midline).
- *"Mechanical (such as kinking, coiling, breakage)"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to a mechanical issue (such as kinking, coiling, breakage).
  INCLUDE: Midline removal due to cap missing, accidental cap removal, broken cap, malfunction, non-functioning line, inconsistently functioning line, Midline "not working", a mechanical problem such as kinking, coiling, or breakage. Kinking includes occlusion (i.e., blocking) of the line due to a bend or twist in the line. Breakage includes any break in the Midline. Coiling includes looping of the Midline. Radiology report (i.e., chest x-ray, CT, etc.) that the Midline had kinking, coiling, or breakage, and Midline was subsequently removed for this reason.
- "*Occlusion or occlusive catheter thrombosis*" if at the time of Midline removal, the medical record indicates that the Midline was removed due to occlusion of the Midline catheter.
- "*Exit site problems (such as blood or serous discharge from catheter site)"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to exit site problems.
  INCLUDE: Removal due to blood from the exit site or serous drainage from Midline catheter site, swelling or redness ONLY at the exit site without additional documentation and infiltration.
- *"Catheter Migration"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to catheter migration.
  INCLUDE: Midline removal due to external movement of the catheter (e.g., increase in the amount of catheter exposed on skin, external movement of the catheter as measured by catheter length on skin etc.)
- *"Malposition"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to malposition.
- *"Infiltration"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to infiltration.

- *"Leaking at Insertion Site"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to leaking at the insertion site.
- *"Thrombophlebitis"* if at the time of Midline removal, the medical record indicates that the Midline was removed due to thrombophlebitis.
  INCLUDE: Midline removal due to phlebitis or superficial venous thrombosis (i.e., superficial vein clots - clots in the cephalic vein, median cephalic vein, basilic vein, median cubital vein, median forearm vein, greater saphenous vein, lesser saphenous vein)
  EXCLUDE: cellulitis, edema without further documentation, swelling or redness ONLY at the exit site
- *"Other"* if at the time of Midline removal, the medical record indicates the Midline was removed for a reason not listed above.

  FOR OTHER, INDICATE REASON

  Instructions: Indicate the type of complication that was the reason for MIDLINE removal, not listed above. Use free text.
- "*Unknown*" if the medical record was silent as to the complication that occurred which resulted in Midline removal.

2.2.1.1 DID THE PATIENT HAVE AN INFECTIOUS DISEASE CONSULT FOR THE SUSPECTED DEVICE-RELATED BLOOD STREAM INFECTION?

Instructions: Review the medical record to determine if there was an infectious disease consult regarding the suspected DRBSI.
Select one of the following:

- "*Yes*" if the medical record indicates that an infectious disease consult was made for a suspected device-related blood stream infection.
- "*No*" if the medical record indicates that an infectious disease consult was not made for a suspected device-related blood stream infection.
- "*Unknown*" if the medical record is silent as to whether an infectious disease consult was made for a suspected device-related blood stream infection.

4. **WAS THE MIDLINE REPLACED BY ANOTHER DEVICE WHEN IT WAS REMOVED?**

Instructions: Review the medical record to determine if the Midline of interest was replaced by another type of vascular access device.
INCLUDE: Any documentation of Peripheral IV, Midline, PICC, or other vascular access device insertion within the day after Midline removal.

- *"Yes"* if the medical record indicates another vascular access device was inserted within the day after removal of the Midline of interest. ***Answer question 4.1***
- *"No"* if the medical record indicates that another vascular access device was not inserted within the day after removal of the Midline of interest.
- *"Unknown"* if the medical record is silent as to whether another vascular access device was inserted within the day after removal of the Midline of interest.

4.1 IF YES, WHAT TYPE OF DEVICE WAS INSERTED?

Instructions: Review the medical record to determine the type of vascular access device that was inserted within the day after removal of the Midline of interest.
Select one of the following:

- *"Peripheral IV (PIV)"* if the medical record indicates that a Peripheral IV was inserted within the day after removal of the Midline of interest.
- *"Midline"* if the medical record indicates that a Midline was inserted within the day after removal of the Midline of interest.
  EXCLUDE: Index Midlines exchanged to another midline over a guidewire - these should be entered into the Midline Exchange form.
- *"Mediport/Medport" If the medical record indicates a Mediport/Mediport was inserted within the day after removal of the Midline of interest.*
- *"PICC"* if the medical record indicates that a PICC was inserted within the day after removal of the Midline of interest. ***Answer question 4.1.1***
- *"Other"* if the medical record indicates that another type of vascular access device was inserted within the day after removal of the Midline of interest.
  INCLUDE: CVC

  IF OTHER, PLEASE SPECIFY

  Instructions: Indicate the type of vascular access device that was inserted within one day after removal of the Midline of interest.

4.1.1 IS THERE DOCUMENTATION THAT THE MIDLINE WAS EXCHANGED TO A PICC OVER A GUIDEWIRE?

Instructions: Review the medical record to determine if the Midline of interest was exchanged to a PICC line over a guidewire.
Select one of the following:

- *"Yes"* if the medical record indicates that the Midline of interest was exchanged to a PICC line over a guidewire
- *"No"* if the medical record indicates that the Midline of interest was not exchanged to a PICC line over a guidewire
- *"Unknown"* if the medical record is silent as to whether the Midline of interest was exchanged to a PICC line over a guidewire

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Surgical Information

1. **DID THE PATIENT HAVE A SURGICAL PROCEDURE (BILLED OR TIME) DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient had a surgical procedure or surgery (i.e. billed OR time) during the period of review. The period of review will be automatically calculated and indicated.
INCLUDE: Any procedure that is billed Operating Room (OR) time, without regard to location of the procedure (i.e. Operating room, procedure room, bedside, etc.).
EXCLUDE: Procedures that are not billed OR time.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a surgical procedure during the period of review. ***Answer questions 1.1 through 1.4***
- *"No"* if the medical record does not indicate the patient had a surgical procedure during the period of review.
- *"Unknown"* if the medical record was silent regarding surgical procedures during the period of review.

1.1. DATE OF SURGERY

Instructions: Indicate the date of the surgical procedure in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
Note: As a double check, ensure that the date of surgery falls within the period of review.

1.2. TYPE OF SURGERY

Instructions: Review the medical record to determine the type of surgical procedure performed during the period of review.

Select one of the following:

- *"Intra-abdominal"* if the medical record indicates that the patient had intra-abdominal surgery during the period of review.
  INCLUDE: Any abdominal surgery (i.e., opening the abdomen) such as exploratory laparotomy, open appendectomy, open cholecystectomy, colectomy, Pancreaticoduodenectomy (WHIPPLE), etc.
- *"Intra-thoracic"* if the medical record indicates that the patient had intra-thoracic surgery during the period of review.
  INCLUDE: Surgery within the lungs such as removal of tumors of the lung (i.e., lobectomy, pneumonectomy), chest reconstruction after major trauma or surgery, lung volume reduction surgery for emphysema, esophageal reconstruction, lung transplantation, thoracoscopy (VATS), repair of thoracic aneurysms
- *"Vascular"* if the medical record indicates that the patient had vascular surgery during the period of review.
  INCLUDE: Surgery within the vascular system (i.e., arteries or veins) such as abdominal aortic aneurysm (AAA) repair, carotid endarterectomy, carotid stenting, vein stripping, sclerotherapy, bypass surgery, embolectomy, etc.
- *"Intra-cranial"* if the medical record indicates that the patient had intra-cranial surgery during the period of review.
  INCLUDE: Surgery within the skull such as craniotomy, skull base tumor resection, cranial aneurysm clipping, arteriovenous malformation (AVM) surgery, burr hole craniotomy, brain biopsy, etc.
- *"Cardiac"* if the medical record indicates that the patient had cardiac surgery during the period of review.
  INCLUDE: Surgery within the heart or great vessels such as coronary artery bypass surgery, valve repair or replacement, minimal access cardiac surgery, ventricular remodeling, heart transplant, etc.
- *"Orthopedic"* if the medical record indicates that the patient had orthopedic surgery during the period of review.
  INCLUDE: Surgery within the musculoskeletal system such as total knee replacement (TKR), total hip replacement (THR), Girdlestone procedure/operation, spinal surgery, etc.
- *"OB/GYN"* if the medical record indicates that the patient had OB/GYN surgery during the period of review.
  INCLUDE: Surgery of the female reproductive system such as hysterectomies, myomectomies, etc.

- *"Other"* if the medical record indicates that the patient had a type of surgery not identified above.

  FOR OTHER, INDICATE THE TYPE OF SURGERY
  Instructions: Review the medical record to determine the type of surgery the patient had and use free text to indicate response.
  INCLUDE: Irrigation and Debridement
- "*Unknown*" if the medical record was silent the type of surgery.

1.3. LENGTH OF SURGERY
Instructions: Review the medical record to determine the length of the surgery indicated above.
Select one of the following:

- *"Less than two hours"* if the medical record indicates that the surgery was less than two hours.
- *"Greater than or equal to two hours"* if the medical record indicates that the surgery was greater than or equal to two hours.
- *"Unknown"* if the medical record was silent regarding the length of surgery.

1.4 DID THE PATIENT HAVE ANY ADDITIONAL SURGICAL PROCEDURES?
Instructions: Review the medical record to determine if the patient had any additional surgical procedures during the period of review. Repeat the surgical information section for up to five surgeries.
INCLUDE: Any additional surgical procedures that are billed OR time.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an additional surgical procedure.
- *"No"* if the medical record does not indicate that the patient had an additional surgical procedure.
- *"Unknown"* if the medical record was silent regarding additional surgical procedures.

ICU Information

1. **WAS THE PATIENT IN THE ICU DURING THE REVIEW PERIOD?**

Instructions: Review the medical record to determine if the patient was in the Intensive Care (ICU) at any point during the period of review (i.e. dates indicated).
INCLUDE: Patients in any type of ICU or CCU classification: Medical, Surgical, Cardiac, Neurologic, Trauma/Burn, etc.
EXCLUDE: Units not classified as intensive care: Step-down, general medical, telemetry, surgery, rehabilitation, intermediate
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was in the Intensive Care (ICU) at any point during the period of review. ***Answer questions 1.1 through 1.9***
- *"No"* if the medical record does not indicate that the patient was in the Intensive Care (ICU) at any point during the period of review.
- "*Unknown*" if the medical record was silent as to whether the patient was in the ICU during the period of review.

1.1. ICU CLASSIFICATION

Instructions: There are various types of ICUs that cater to a specific medical specialty or patient population. Review the medical record to determine the classification of the ICU that the patient was in during the period of review.
Select one of the following:

- *"Surgical"* if the medical record indicates that the patient was in a surgical ICU during the period of review.
  INCLUDE: Surgical Intensive Care Unit (SICU)
- *"Medical"* if the medical record indicates that the patient was in a medical ICU during the period of review.
  INCLUDE: Medical Intensive Care Unit (MICU)
- *"Medical/Surgical"* if the medical record indicates that the patient was in a medical/surgical ICU during the period of review.
  INCLUDE: Medical/Surgical Intensive Care Unit (MSICU)
- *"Neurological"* if the medical record indicates that the patient was in a neurological ICU during the period of review.
  INCLUDE: Neuroscience Critical Care Unit (NCCU), Neuroscience Intensive Care Unit (NICU)
- *"Cardiac"* if the medical record indicates that the patient was in a cardiac ICU during the period of review.
  INCLUDE: Coronary Intensive Care Unit (CCU or CICU)
- *"Other"* if the medical record indicates that the patient was in an ICU not identified above during the period of review.
- "*Unknown*" if the medical record was silent as to the type of ICU.

1.2. DATE OF ICU ADMISSION

Instructions: Indicate the date of ICU admission in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
Note: This date can fall outside the period of review but only BEFORE line placement.

1.3. REASON(S) FOR ICU ADMISSION

Instructions: Review the medical record to determine the reason or reasons that the patient was admitted to an ICU. Patients are admitted to ICUs for constant monitoring and/or care for severe and life-threatening illnesses or injuries.
Select all that apply:

- *"Myocardial Infarction/ Unstable Cardiac Disease"* if the medical record indicates that the patient was admitted to the ICU for myocardial infarction and/or unstable cardiac disease.
  INCLUDE: Examples include (but not limited to): acute myocardial infarction (AMI), myocardial infarction (MI), heart attack, myocardial infarction with ST elevation (STEMI), myocardial infarction without ST elevation (NSTEMI), coronary artery embolism, coronary artery occlusion, coronary artery thrombus, infarction of the heart or myocardium or ventricle, unstable angina, acute coronary syndrome, unstable heart failure (HF), unstable congestive heart failure (CHF), hypertensive emergency, cardiac arrest, unstable irregular heart beat (i.e. cardiac dysrhythmia or cardiac arrhythmia).
  EXCLUDE: Angina pectoris, non-specific chest pain, r/o MI and no diagnosis of MI.
- *"Respiratory Failure/ Pulmonary Compromised"* if the medical record indicates that the patient was admitted to the ICU for respiratory failure/ pulmonary compromised.
  INCLUDE: Any documentation of respiratory failure or pulmonary compromise. Examples include (but not limited to): respiratory failure, acute respiratory distress syndrome (ARDS), respiratory distress syndrome (RDS), pulmonary dysfunction, pulmonary edema, pulmonary embolism, acute lung injury (ALI), pulmonary fibrosis, severe pneumonia, hypoxemic respiratory failure, pneumonitis, etc.
- *"Sepsis/ Infection"* if the medical record indicates that the patient was admitted to the ICU for sepsis/infection.
  INCLUDE: Examples include (but not limited to): sepsis, severe sepsis, septic shock, severe infection, septicemia, bacteremia, infectious disease, acute

infection, pneumonia, etc.

- *"Altered Mental Status"* if the medical record indicates that the patient was admitted to the ICU for altered mental status.
  INCLUDE: Examples include (but not limited to): alteration in mental status for any reason: trauma, exposures, overdose (i.e. drugs, chemicals, etc.), insufficient oxygen or blood flow, etc. Altered mental status, altered level of consciousness (LOC), comatose, altered state of consciousness.
- *"Stroke"* if the medical record indicates that the patient was admitted to the ICU for stroke.
  INCLUDE: Examples include (but not limited to): stroke, cerebral vascular accident (CVA), hemorrhagic stroke, ischemic stroke, transient ischemic stroke (TIA), thrombotic stroke, embolic stroke, cerebral infarction.
- *"Unstable Bleeding"* if the medical record indicates that the patient was admitted to the ICU for unstable bleeding.
  INCLUDE: Documentation of fatal, major, or clinically important bleeding as the reason for the patient receiving care in the ICU AND/OR symptomatic bleeding associated with a fall in hemoglobin level of 2 g/DL, or leading to transfusion of 2 units of packed red blood cells, or within a critical organ (including intracranial, intraspinal, intraocular, retroperitoneal, intraarticular, pericardial, or intramuscular with compartment syndrome).
- *"Other"* if the medical record indicates that the patient was admitted to the ICU for a reason other than listed above.

  FOR OTHER, INDICATE THE REASON

  Instructions: Indicate the reason using free text.
- *"Unknown"* if the medical record is silent as to a reason the patient was admitted to the ICU.

1.4. WAS THE PATIENT MECHANICALLY VENTILATED DURING THE PERIOD OF REVIEW (WHILE IN THE ICU)?

Instructions: Review the medical record to determine if the patient was mechanically ventilated during the period of review (i.e. while the patient was/is admitted to the ICU). Mechanical ventilation is a method used to assist breathing. Only include invasive (involving endotracheal intubation) mechanical ventilation. Patients can be intubated with an endotracheal tube, which is then hooked up to a breathing machine (i.e. ventilator).

INCLUDE: Mechanical ventilation, ventilator, endotracheal ventilation

EXCLUDE: BiPAP, intubation only during a procedure/surgery

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was/is mechanically ventilated while admitted to the ICU during the period of review.
- *"No"* if the medical record does not indicate that the patient was/is mechanically ventilated while admitted to the ICU during the period of review.
- "*Unknown*" if the medical record was silent as to whether the patient was mechanically ventilated during the period of review.

1.5 WAS AN INTRAVENOUS VASOPRESSOR ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW (WHILE IN THE ICU)?

Instructions: Review the medical record to determine if the patient was administered an intravenous vasopressor during the period of review (i.e. while the patient was admitted to the ICU). Vasopressor refers to a medication used to raise blood pressure, and are typically used when a patient is hypotensive (i.e. has low blood pressure). This information is likely to be found in medication orders and/or the medication administration record (MAR). If there are 2 or more vasopressors on the same day, you can select one of them to enter. If there are 2 or more but on different days, enter the first one that was given during the period of review.

INCLUDE: Vasopressin, dopamine, dobutamine, epinephrine (Adrenalin), norepinephrine (Levophed), phenylephrine (Neo-Synephrine).

EXCLUDE: Nitroprusside, oral Midodrine

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered an intravenous vasopressor while admitted to the ICU during the period of review. ***Answer questions 1.5.1 through 1.5.2***
- *"No"* if the medical record does not indicate that the patient was administered an intravenous vasopressor while admitted to the ICU during the period of review.
- "*Unknown*" if the medical record was silent as to whether the patient received an intravenous vasopressor during the period of review.

1.5.1. NAME OF THE DRUG

Instructions: Review the medical record to determine the name of the vasopressor administered during the ICU admission (i.e. while the patient was/is admitted to the ICU during the period of review).

Select one of the following:

- "*Vasopressin*" if the medical record indicates that vasopressin was the vasopressor administered during the ICU admission.

INCLUDE: Vasopressin, Pitressin Synthetic, Pitressin

- "*Dobutamine*" if the medical record indicates that dobutamine was the vasopressor administered during the ICU admission.
  INCLUDE: dobutamine, dobutamine hydrochloride, Dobutre
- "*Dopamine*" if the medical record indicates that dopamine was the vasopressor administered during the ICU admission.
  INCLUDE: dopamine, dopamine hydrochloride, Intropin
- "*Epinephrine*" if the medical record indicates that epinephrine was the vasopressor administered during the ICU admission.
  INCLUDE: Epinephrine, Adrenalin, Adrenaline
- "*Phenylephrine*" if the medical record indicates that phenylephrine was the vasopressor administered during the ICU admission.
  INCLUDE: Phenylephrine, Neo-Synephrine
- "*Norepinephrine*" if the medical record indicates that levophed was the vasopressor administered during the ICU admission.
  INCLUDE: Norepinephrine, Levophed
- "*Other*" if the medical record indicates that the name of the vasopressor administered during the ICU admission was something other than listed above.

  FOR OTHER, SPECIFY NAME OF DRUG.
  Instructions: Use free text to indicate the name of the vasopressor.

1.5.2. WAS A VASOPRESSOR INFUSED THROUGH THE MIDLINE (WHILE IN THE ICU)?

Instructions: Review the medical record to determine if any vasopressor was being infused (i.e. administered) OR still is currently being infused through the Midline of interest while in the ICU. Depending on your site, this information may be found within the medical administration record (MAR) or in nursing line care notes. There are three (3) options for this question.
INCLUDE: Any documentation that ANY vasopressor was infused through any lumen (i.e. port) of the Midline of interest while the patient was in ICU.
EXCLUDE: Any documentation that the vasopressor was or is being infused through a line other than the Midline of interest (i.e. a port, peripheral IV, PICC, etc.).
Select one of the following:

- "*Yes*" if the medical record indicates that a vasopressor was infused through the Midline of interest while in the ICU.

- *"No"* if the medical record does not indicate that a vasopressor was infused through the Midline of interest while in the ICU.
- *"Unknown"* if the medical record is silent as to whether a vasopressor was infused through the Midline of interest while in the ICU.

1.6. DOES THE PATIENT HAVE A PERIPHERAL IV IN PLACE DURING THE PERIOD OF REVIEW (WHILE IN THE ICU)?

Instructions: Review the medical record to determine if the patient has a peripheral intravenous (IV) access/catheter/line in place, during the period of review (i.e. while the patient was/is admitted to the ICU). Peripheral IVs are placed in order to gain access to the peripheral blood circulation, and are usually placed in upper and lower extremities.
INCLUDE: Peripherally inserted IVs in the: Antecubital, AC, Hand, External jugular, EJ, Forearm, Internal jugular, IJ, left lower extremity, LLE, Left upper extremity, LUE, Right lower extremity, RLE, Right upper extremity, RUE
EXCLUDE: Centrally inserted venous catheters, CVC, PICC, midline (some examples include: Power glide), ports
Select one of the following:

- *"Yes"* if the medical record indicates that the patient has a peripheral IV in place during the ICU admission.
- *"No"* if the medical record does not indicate that the patient has a peripheral IV in place during the ICU admission.
- *"Unknown"* if the medical record is silent regarding peripheral IV placement or venous access during the ICU admission.

1.7. DID THE PATIENT HAVE A CENTRAL VENOUS CATHETER (CVC) PLACED DURING THE PERIOD OF REVIEW (WHILE IN THE ICU)?

Instructions: Review the medical record to determine if the patient had a CVC, placed during the period of review (i.e. while the patient was/is admitted to the ICU). A central line is one that terminates in a central vein or enters a central vein (femoral, axillary or subclavian). There are three (3) options for this question.
INCLUDE: Non-tunneled, tunneled, peripherally inserted, or implanted central venous catheters (CVCs) placed while the patient was/is in the ICU during the period of review. Some examples include (but not limited to): Arrow, Broviac, Cannon Arrow, CL-20, Cook catheter, Groshong, Hickman, Hohn, Infusaport, Kendal Palindrome, Neostar, PermaCath, Pro-line, R-Port, Quinton, S-Port, Vas Cath, Mediport insertion, Mediport that has been accessed (including accessed

for flushes), Single Lumen Infusion Catheter (SLIC), and ICY Intravascular Heat Exchange Catheter (ICY Catheter).
Note: If a Mediport is both placed and accessed in the during the period of review (while in the ICU), these should be entered as separate CVC insertions. Each documented Mediport access should be captured separately as well.
EXCLUDE: AV Fistulas, External Jugular (EJ) or Internal Jugular (IJ) peripheral IV, midline catheters (some examples include: Power glide), Med Port access, interosseous lines, arterial catheters, Swan Ganz catheters, Temporary Transvenous Pacemaker, Permacath exchange and femoral sheaths and central lines placed and removed within one day, this includes femoral catheters placed for procedures (for example – cardiac procedures such as angiography, angiography, angioplasty, EPS, pacemaker placement).
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a CVC placed during the ICU admission. ***Answer questions 1.7.1 through 1.7.3***
- *"No"* if the medical record does not indicate that the patient had a CVC placed during the ICU admission.
- "*Unknown*" if the medical record was silent as to whether the patient had a CVC placed during the ICU admission.

1.7.1. DATE OF CVC INSERTION
Instructions: Indicate the date of CVC insertion in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.7.2. VEIN
Instructions: Review the medical record to determine the vein in which the CVC was placed.
Select one of the following:

- *"Basilic"* if the medical record indicates that the CVC was placed in the basilic vein.
- *"Cephalic"* if the medical record indicates that the CVC was placed in the cephalic vein.
- *"Axillary"* if the medical record indicates that the CVC was placed in the axillary vein.
- *"Median"* if the medical record indicates that the CVC was placed in the median vein.
- *"Brachial"* if the medical record indicates that the CVC was placed in the brachial vein.

- *"Internal Jugular"* if the medical record indicates that the CVC was placed in the internal jugular vein.
- *"Other"* if the medical record indicates that the CVC was placed in a vein not specified above.

  FOR OTHER, SPECIFY VEIN

  Instructions: Free text the vein in which the CVC was placed.
- "*Unknown*" if the medical record was silent as to the vein in which the CVC was placed.

1.7.3. LUMENS

Instructions: Review the medical record to determine the number of lumens the CVC had. The term lumen refers to the number of openings the line has, or IV access lines. CVCs can have one, two, three, or four lumens. There are five (5) options for this question.

Select one of the following:

- *"Single"* if the medical record indicates that the CVC had one (1) lumen or a single lumen.
- *"Double"* if the medical record indicates that the CVC had two (2) lumens or is double lumen.
- *"Triple"* if the medical record indicates that the CVC had three (3) lumens or is triple lumen.
- *"Quadruple"* if the medical record indicates that the CVC had four (4) lumens or is Quad lumen.
- *"Unknown"* if the medical record is silent as the number of lumens the CVC had.

1.8. WAS THE PATIENT DISCHARGED/TRANSFERRED FROM THE ICUE DURING THE PERIOD OF REVIEW?

Instructions: Review the medical record to determine if the patient was discharged/ transferred from the ICU during the period of review. There are three (3) options for this question.

INCLUDE: Discharge/transfers from the ICU to another unit within the hospital, another hospital, home, or patient death.

EXCLUDE: Patients that have not been discharged/transferred from the ICU (i.e. patient was still currently admitted to ICU at the time of medical record review)

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was discharged/ transferred/died (while in the ICU) from the ICU. ***Answer question 1.8.1***

- *"No"* if the medical record does not indicate that the patient was discharged/transferred from the ICU.
- *"Unknown"* if the medical record was silent as to whether the patient was discharged from the ICU.

1.8.1. DATE OF ICU DISCHARGE

Instructions: Indicate the date of ICU discharge/transfer/death in the MM/DD/YYYY format. Enter the date of the discharge/transfer order, if the patient does not leave the ICU on the same date as the order was written. Use 01/01/1900 if the date is unknown.

1.9 DID THE PATIENT HAVE AN ADDITIONAL ICU ADMISSION DURING THE REVIEW PERIOD?

Instructions: Review the medical record to determine if the patient had an additional admission to the intensive care unit (ICU) or critical care unit (CCU) during the period of review (i.e. dates indicated).
Note: This question will repeat up to 5 times to allow for multiple ICU admissions.
Select one of the following:
INCLUDE: Patients transferred to or admitted to any type of ICU or CCU classification: Medical, Surgical, Cardiac, Neurologic, Trauma/Burn, etc.
EXCLUDE: Units not classified as intensive care: Step-down, general medical, telemetry, surgery, rehabilitation, intermediate

- *"Yes"* if the medical record indicates that the patient had an additional ICU admission during the review period.
- *"No"* if the medical record does not indicate that the patient had an additional ICU admission during the review period.

Medications

Note: All medications need to be confirmed as ordered and administered.
Examples of appropriate documentation for medications as ordered and administered:

- Documentation of administration via the Medication Administration Record (MAR)

- Documentation in an outpatient note from a healthcare professional that the patient received the medication (example: "Patient has taken their Lovenox for the past two weeks")

Examples of inappropriate documentation for medications as ordered and administered:

- Documentation of a medication as being ordered on discharge
- Documentation of a medication as being listed as a patient's current medication

1. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT THE PATIENT RECEIVED ANY OF THE FOLLOWING MEDICATIONS DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient received (i.e., the medication was ordered AND given) any of the following medications during the period of review (i.e., dates indicated). There are six (6) options for this question. Select all that apply:

- *"Antiplatelet"* if the medical record indicates that the patient received an antiplatelet during the period of review.
  INCLUDE: Clopidogrel (Plavix), prasugrel (Effient), ticagrelor (Brilinta), ticlopidine (Ticlid), cilostazol (Pletal), eptifibatide (Integrilin), abciximab (ReoPro), tirofiban (Aggrastat), dipyridamole (Persantine, Apo-Dipyridamole, Novo-Dipiradol), dipyridamole with aspirin (Aggrenox), Agrylin
- *"Aspirin"* if the medical record indicates that the patient received aspirin during the period of review.
  INCLUDE: Any dose of an antiplatelet such as (but not limited to) aspirin, acetyl salicylic acid (ASA), Acuprin, Apo-ASA, Apo-Asen, Arthrinol, Arthrisin, Artria SR ASA, Bayer Aspirin, Coryphen, Easprin, Ecotrin, Emparin, Entrophen, Excedrin, Halfprin, Norwich Extra-Strength, Novasen, PMS-ASA, Sloprin, St. Joseph's Children Aspirin, Supasa, Fiorinal, Zorprin
- *"Statins"* if the medical record indicates that the patient received a statin during the period of review.
  INCLUDE: Any dose of a stain such as (but not limited to) niacin/lovastatin (Advicor), atorvastatin (Lipitor), amlodipine besylate/atorvastatin calcium (Caduet), fluvastatin (Lescol), lovastatin (Altocor, Altoprev, Mevacor), pravastatin (Pravachol), pitavastatin (Livalo), rosuvastatin (Crestor), Simcor, Vytorin, simvastatin (Zocor)
  EXCLUDE: Octreotide (Sandostatin)
- *"Erythropoietin Stimulating Agent (ESA)"* if the medical record indicates that the patient received an ESA during the period of review.

INCLUDE: Any dose of an Erythropoietin Simulating Agent (ESA) such as (but not limited to) erythropoietin (EPO), epoetin alfa (Procrit, Epogen), epoetin beta (NeoRecormon), darbepoetin alfa (Aranesp).

- *"None Listed"* if the medical record does not indicate that the patient received any of the medications listed above.
- "*Unknown*" if the medical record was silent as to whether the patient received any of the medications.

2. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT AN ANTICOAGULANT WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was administered (i.e., ordered AND given) an anticoagulant during the period of review (i.e., dates indicated). Enter only the doses received after the Midline was placed.
INCLUDE: Any anticoagulant that was administered as venous thromboembolism (VTE) prophylaxis and/or treatment. Any anticoagulant administered for treatment reasons (i.e., atrial fibrillation, mechanical heart valve, etc). Common anticoagulants include (but are not limited to) apixaban (Eliquis), Argatroban, bivalirudin (Angiomax), dalteparin (Fragmin), enoxaparin (Lovenox), fondaparinux (Arixtra), heparin, heparin sodium, lepirudin (Refludon), tinzaparin (Innohep), warfarin (Coumadin), dabigatran (Pradaxa), rivaroxaban (Xarelto).
EXCLUDE: Anticoagulant that were ordered but not administered, heparin administered along with dialysis in order to keep the machine from clotting.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered an anticoagulant during the period of review. ***Answer questions 2.1 through 2.4.***
- *"No"* if the medical record does not indicate that the patient was administered an anticoagulant during the period of review. ***Answer question 2.5.***
- *"Unknown"* if the medical record was silent as to whether the patient was administered an anticoagulant during the period of review.

2.1. REASON FOR ANTI-COAGULANT

Instructions: Review the medical record to determine the reason, either for treatment or as VTE prophylaxis, that the anticoagulant was administered to the patient during the period of review (i.e., dates indicated).
<u>*Note*</u>: Anticoagulants cannot be ordered for both treatment and prophylaxis because anticoagulants for the purpose of prophylaxis are likely unnecessary or contraindicated if the patient is receiving an anticoagulant for treatment.

Treatment may be ordered either because the physician is continuing a medication that the patient was on before coming to the hospital or the patient may have a new condition that now requires treatment with an anticoagulant. VTE prophylaxis may be ordered with or without a VTE Risk Assessment. In order to tell the difference between treatment vs. prophylaxis, consider why the anticoagulant is being administered and at what dose? Anticoagulants ordered for prophylaxis are generally ordered in lower doses than treatment anticoagulants (anticoagulants are described below and include examples of treatment and prophylaxis dosing). An INR ordered on admission may indicate the patient has been on long term anticoagulation or prophylaxis prior to admission and therefore the anticoagulant ordered on admission is a treatment dose rather than a prophylaxis measure OR it may indicate concern regarding the patient's coagulation status not related to anticoagulant use (such as liver failure).

Select one of the following:

- *"VTE Prophylaxis"* if the medical record indicates that the patient was administered an anticoagulant during the period of review for VTE prophylaxis.
  INCLUDE: Any documentation that the anticoagulant was administered as a prophylactic agent or for VTE prophylaxis.
- *"Treatment"* if the medical record indicates that the patient was administered an anticoagulant during the period of review for treatment purposes.
  INCLUDE: Patient's that were administered an anticoagulant as treatment for atrial fibrillation, mechanical heart valve, PE, DVT, stroke, orthopedic surgery, or clotting disorder.
- "*Unknown*" if the medical record was silent as to the reason for the anticoagulant.

2.2. NAME OF ANTI-COAGULANT

Instructions: Review the medical record to determine the name of the anticoagulant that was administered.

Note: Example anticoagulant order Coumadin 5 mg PO daily. Coumadin is the name of the anticoagulant, PO is the route, 5 is the dose, mg is the unit, and daily is the frequency.

Select one of the following:

- *"Apixaban"* if the medical record indicates that the patient was administered apixaban.
  INCLUDE: Apixaban (Eliquis)

Treatment Dosing: The dose is 5mg PO BID for most patients but may also be dosed as 2.5mg for some patients.
VTE Prophylaxis Dosing: Medication is not used in VTE prophylaxis for medical patients at this time.

- *"Argatroban"* if the medical record indicates that the patient was administered argatroban.
  INCLUDE: Argatroban (Argatroban Injection)
  Treatment Dosing: Argatroban administered IV injection and continuous IV infusion only.
  VTE Prophylaxis Dosing: Argatroban is very unlikely to be used for VTE prophylaxis.
- *"Bextrixaban"* if the medical record indicates that the patient was administered betrixaban.
  INCLUDE: Bextrixaban (Bevyxxa®)
- *"Bivalirudin"* if the medical record indicates that the patient was administered bilvalirudin.
  INCLUDE: Bivalirudin (Angiomax®)
  Treatment Dosing: Bivalirudin administered IV injection and continuous IV infusion.
  VTE Prophylaxis Dosing: Not used in VTE prophylaxis for medical patients at this time.
- *"Dabigatran"* if the medical record indicates that the patient was administered dabigatran.
  INCLUDE: Dabigatran (Pradaxa®)
  Treatment Dosing: 150 mg PO BID (or 75 PO BID if estimated glomerular filtration rate (eGFR) is 15-30 ml/min).
  VTE Prophylaxis Dosing: Dabigatran is not used specifically for VTE prophylaxis, however if a patient continues to take this medication while hospitalized, no additional prophylaxis is needed (similar to warfarin for INR levels).
- *"Dalteparin"* if the medical record indicates that the patient was administered dalteparin.
  INCLUDE: Dalteparin (Fragmin®)
  Treatment Dosing: Example treatment dosing of dalteparin for unstable angina/non-Q-wave MI 120 international units/kg
  VTE Prophylaxis: 5,000 international units subcutaneous daily
- *"Edoxaban (Savaysa)"* if the medical record indicates that the patient was administered Edoxaban (Savaysa).

Treatment Dosing: Example treatment dosing of edoxaban for A-Fib: 60 mg PO daily (30 mg PO daily if CrCl 15-50 ml/min) *DVT/PE treatment: same dosing as for A-Fib (30 mg PO daily is also used for patients who weigh 60 kg or less)*

- *"Enoxaparin"* if the medical record indicates that the patient was administered enoxaparin.
  INCLUDE: Enoxaparin (Lovenox®)
  Treatment Dosing: Example treatment dosing for unstable angina/non-Q-wave MI: 1 mg/kg subcutaneous every 12 hours
  VTE Prophylaxis Dosing: 40 mg subcutaneous daily, 30 mg subcutaneous daily, 30 subcutaneous BID
- *"Fondaparinux"* if the medical record indicates that the patient was administered fondaparinux.
  INCLUDE: Fondaparinux (Arixtra®)
  Treatment Dosing: Example treatment dosing for DVT/PE 5 mg subcutaneous daily, 7.5 mg subcutaneous daily, or 10 mg subcutaneous daily depending on weight
  VTE Prophylaxis Dosing: 2.5 mg subcutaneous daily
- *"Heparin"* if the medical record indicates that the patient was administered heparin.
  INCLUDE: Heparin, Heparin Sodium, Unfractionated Heparin (UFH)
  Treatment Dosing: Often Heparin is given as an IV bolus followed by an IV infusion (i.e., heparin drip)
  VTE Prophylaxis Dosing: 5,000 units subcutaneous two or three times daily (i.e., BID or TID).
  Note 1: Patients receiving heparin drips while hospitalized often receive a bolus prior to a continuous hourly drip. Only indicate in the anti-coagulant section the continuous dose. No need to record the initial bolus or subsequent boluses (often given if the PTT is sub therapeutic). Additionally, the hourly rate can change daily depending on the PTT results. It is only necessary to record the initial dose that was administered during the period of review.
  Note 2: Often heparin boluses are given during a cardiac catheterization or dialysis as a one-time order. These should not be included in the anticoagulant section.
- *"Lepirudin"* if the medical record indicates that the patient was administered lepirudin.
  INCLUDE: Lepirudin (Refludon®)
  Treatment Dosing: IV bolus and continuous IV infusions only.

VTE Prophylaxis Dosing: Not used for VTE prophylaxis.

- *"Rivaroxaban"* if the medical record indicates that the patient was administered rivaroxaban.
  INCLUDE: Rivaroxaban (Xarelto®)
  Treatment Dosing: Example treatment dosing 20 mg PE daily for Afib.
  VTE Prophylaxis Dosing: 10 mg PO daily.
  Note: Unlike warfarin, this drug does not require routine monitoring (blood testing for INR levels).
- *"Ticagrelor"* if the medical record indicates that the patient was administered ticagrelor.
  INCLUDE: Ticagrelor (Brilinta)
  Treatment Dosing: 180mg loading dose given with 325mg of Aspirin, then 90mg twice a day with 81mg of Aspirin in first year, then 60mg with 81mg Aspirin after 1 year post ACS event.
  VTE Prophylaxis Dosing: Not used for VTE prophylaxis
- *"Tinzaparin"* if the medical record indicates that the patient was administered tinzaparin.
  INCLUDE: Tinzaparin (Innohep®)
  Treatment Dosing: Example treatment dosing for DVT 175mg/kg/day subcutaneous
  VTE Prophylaxis Dosing: Not used for VTE prophylaxis.
- *"Warfarin"* if the medical record indicates that the patient was administered warfarin.
  INCLUDE: Warfarin (Coumadin)
  Treatment Dosing: 2.5-5 mg orally daily (dose is titrated to meet patient's INR goal so may be higher than 5 mg daily)
  VTE Prophylaxis Dosing: Coumadin is not generally used specifically for VTE prophylaxis, however if a patient continues to take this medication while hospitalized, no additional prophylaxis is needed (similar to dabigatran).
- *"Other"* if the medical record indicates that the patient was administered an anticoagulant not listed above.
- "*Unknown*" if the medical record was silent as to the name of the anticoagulant.

2.3. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the date of the first dose of anticoagulant administered to the patient during the period of review. For

example, if the patient received the anticoagulant on the day of Midline placement, you would enter the same date here. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2.4. WAS AN ADDITIONAL ANTI-COAGULANT ADMINISTERED

Instructions: Review the medical record to determine if an additional anticoagulant was administered (i.e., ordered AND given) during the period of review (i.e., dates indicated above). Enter only the doses received after the Midline was placed.

Note: This section repeats so that up to five (5) anticoagulants may be inputted

INCLUDE: Any anticoagulant that was administered as venous thromboembolism (VTE) prophylaxis and/or treatment. Any anticoagulant administered for treatment reasons (i.e., atrial fibrillation, mechanical heart valve, etc). Common anticoagulants include (but are not limited to) apixaban (Eliquis), Argatroban, bivalirudin (Angiomax), dalteparin (Fragmin), enoxaparin (Lovenox), fondaparinux (Arixtra), heparin, heparin sodium, lepirudin (Refludon), tinzaparin (Innohep), warfarin (Coumadin), dabigatran (Pradaxa), rivaroxaban (Xarelto).

EXCLUDE: Anticoagulants that were ordered but not administered.

Select one of the following:

- *"Yes"* if the medical record indicates that an additional anticoagulant was administered during the period of review.
- *"No"* if the medical record does not indicate that an additional anticoagulant was administered during the period of review.
- *"Unknown"* if the medical record is silent as to whether an additional anticoagulant was administered during the period of review.

2.5 REASON FOR NO ANTI-COAGULANT

Instructions: Review the medical record to determine the reason for no anticoagulant administration.

Select one of the following:

- *"Contraindication to pharmacologic prophylaxis"* if the medical record indicates that an anticoagulant was not administered due to the patient having a contraindication to pharmacologic prophylaxis (i.e., VTE prophylaxis was contraindicated).

  Gastrointestinal (GI) or Genitourinary (GU) Hemorrhage Within the Last 3 Months

  EXCLUDE: Bleeding events of uncertain clinical significance on admission. For example, microscopic blood in urine.

DEFINITION: GI or GU bleeding (hemorrhage) may be major or minor. Some examples of Gastrointestinal (GI) bleeding that may be documented include hematemesis (vomiting of blood or coffee ground like materials), hematochezia (passage of maroon or bright red blood), or passage of blood clots per rectum. Documentation of Genitourinary (GU) bleeding is often characterized by gross hematuria (blood in the urine), that is evident on macroscopic evaluation and presents for 24 hours or more.
INSTRUCTIONS: Select if GI or GU hemorrhage is documented the day before Midline placement, the day of Midline placement, the day after Midline placement, or within the 3 months prior to Midline placement.
Note: A positive Hemoccult® is not sufficient to contraindicate pharmacologic prophylaxis.
Intracranial Hemorrhage Within the Last Year
DEFNITION: Intracranial bleeding may also be referred to as a hemorrhagic stroke, subdural hematoma, or subarachnoid hemorrhage.
INSTRUCTIONS: Select if intracranial hemorrhage, hemorrhagic stroke, subdural hematoma or subarachnoid hemorrhage is documented the day before Midline placement, the day of Midline placement, the day after Midline placement, or within one year prior to MIDLINE placement.
Other Hemorrhage within the last 3 months
INCLUDE: Pituitary Apoplexy
DEFINITION: Other bleeding (hemorrhage) may be major or minor. Some examples of other (not GI/GU nor intracranial) bleeding that may be documented include epistaxis that requires intervention and is recurrent and/or lasts at least 5 minutes, extensive hematoma or bruising (>5 cm in diameter), intra-articular bleeding (documented by aspiration), menorrhagia or metrorrhagia (increased quantity or duration), thrombocytopenia with platelets <50,000, or other bleeding important enough to be recorded on the medical record.
EXCLUDE: Blood in urine from a patient's menses.

- *"INR > 2.0"* if the medical record indicates that an anticoagulant was not administered during the period of review due to the patient's INR being greater than 2.0.
  INCLUDE: Any documentation that an anticoagulant was not administered due to patient's INR > 2.0 regardless of the reason for the INR being elevated.
- *"Thrombocytopenia > 50,000"* if the medical record indicates that an anticoagulant was not administered during the period of review due to thrombocytopenia with a platelet count greater than 50,000.

INCLUDE: Any documentation that an anticoagulant was not administered due thrombocytopenia and the patient's platelet count was 50,000 or above.
Note: If the patient's platelet count was less than 50,000, you should select "Contraindication to pharmacological prophylaxis"

- *"Considered low risk"* if the medical record indicates that an anticoagulant was not administered during the period of review due to the patient being low risk for VTE.
  INCLUDE: Any physician/provider documentation that the patient was not administered an anticoagulant because the patient was "low risk" for VTE.
- *"Unknown"* if the medical record was silent as to the reason why no anticoagulant was administered during the period of review.
- *"Other"* if the medical record indicates that an anticoagulant was not administered during the period of review due to something other than the options listed above.
  INCLUDE: patient refuses heparin SQ

3. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT PIPERACILLIN/TAZOBACTAM (INTRAVENOUS ONLY) WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was administered (i.e., ordered AND given) intravenous piperacillin/tazobactam (i.e., Zosyn) during the period of review (i.e., dates indicated). Enter only the doses received after the Midline was placed. This information is likely to be found on the medication administration record (MAR).
INCLUDE: Piperacillin/tazobactam, piperacillin and tazobactam for injection, Zosyn
Note: Example piperacillin/tazobactam order: Zosyn 3.375 gm q 6h IV. Zosyn is the name of the antibiotic, 3.375 is the dose, g is the unit, q6h is the frequency, and IV is the route.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered intravenous piperacillin/tazobactam during the period of review. ***Answer question 3.1.***
- *"No"* if the medical record does not indicate that the patient was administered piperacillin/tazobactam during the period of review.
- "*Unknown*" if the medical record was silent as to whether the patient was administered piperacillin/tazobactam during the period of review.

3.1. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the date of the first administered dose of intravenous piperacillin/tazobactam during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

4. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT VANCOMYCIN (INTRAVENOUS ONLY) WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was administered (i.e., ordered AND given) intravenous (IV) vancomycin during the period of review (i.e., dates indicated). Enter only the doses received after the Midline was placed. This information is likely to be found on the medication administration record (MAR).
INCLUDE: Intravenous vancomycin, Vanco, vancocin HCl, vancomycin hydrochloride, or vancoled
Note: Example order: Vancomycin 1 g q6h IV. Vancomycin is the name of the antibiotic, 1 is the dose, g is the unit, q6h is the frequency, and IV is the route.
EXCLUDE: Oral Vancomycin
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered intravenous vancomycin during the period of review. ***Answer question 4.1***
- *"No"* if the medical record does not indicate that the patient was administered intravenous vancomycin during the period of review.
- "*Unknown*" if the medical record was silent as to whether intravenous vancomycin was administered during the period of review.

4.1. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the date of the first administered dose of intravenous vancomycin during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

5. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT CEFEPIME (INTRAVENOUS ONLY) WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was administered (i.e., ordered AND given) intravenous cefepime during the period of review (i.e., dates indicated). Enter only the doses received after the MIDLINE was placed. This information is likely to be found on the medication administration record (MAR). INCLUDE: Cefepime, Maxipime, cefepime hydrochloride

Note: Example order: Cefepime 1 g q8h. Cefepime is the name of the antibiotic, 1 is the dose, g is the unit, and q8h is the frequency.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered intravenous cefepime during the period of review. ***Answer question 5.1***
- *"No"* if the medical record does not indicate that the patient was administered intravenous cefepime during the period of review.
- "*Unknown*" if the medical record was silent as to whether intravenous cefepime was administered during the period of review.

5.1. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the date of the first administered dose of intravenous cefepime during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

6. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT THE PATIENT RECEIVED ANY OF THE FOLLOWING ANTIBIOTICS, ANTIFUNGAL, OR ANTIVIRAL MEDICATIONS INTRAVENOUSLY DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if any of the following antibiotics, antifungal agents, or antiviral medications were administered intravenously (IV) to the patient during the period of review (date of midline placement through day 30 post-midline placement, patient death, or until midline removal, whichever comes first). There are nineteen (19) options for this question.

Note1: For all medications selected, ***answer question 6.1.***

Note2: These intravenous medications do not have to be administered through the midline for inclusion in this question.

Check all that apply:

- *"Acyclovir (Acyclovir Sodium, Zovirax)"*
- *"Ampicillin (Ampicillin Sodium)"*
  EXCLUDE: Ampicillin-Sulbactam (Unasyn)

- *"Azithromycin (Zithromax, Zimax)"*
- *"Cefazolin (Ancef)"*
- *"Ceftriaxone (Rocephin)"*
- *"Ciprofloxacin (Cipro)"*
- *"Clindamycin (Cleocin)"*
- *"Daptomycin (Cubicin)"*
- *"Ertapenem (Invanz)"*
- *"Flagyl (Metronidazole)"*
- *"Levofloxacin (Levaquin)"*
- *"Linezolid (Zyvox)"*
- *"Meropenem (Merrem)"*
- *"None listed"*
- *"Unknown"*

6.1. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW:

Instructions: Review the medical record to determine the date of the first administered dose of the selected medication during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

7. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT THE PATIENT RECEIVED ANY OF THE FOLLOWING MEDICATIONS INTRAVENOUSLY DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if any of the following medications were administered intravenously (IV) to the patient during the period of review (date of midline placement through day 30 post-midline placement, patient death, or until midline removal, whichever comes first). There are sixteen (16) options for this question.

Note1: For all medications selected, ***answer question 7.1.***

Note2: These intravenous medications do not have to be administered through the midline for inclusion in this question.

- *"Anesthetics (Propofol, Versed)"*
- *"Amiodarone (Cordarone, Pacerone)"*
- *"Dilaudid (Hydromorphone hydrochloride)"*
- *"Fentanyl"*
- *"Lasix (furosemide)"*
- *"Lorazepam (Ativan)"*
- *"Magnesium"*

- *"Morphine"*
- *"Norepinephrine"*
- *"Pepcid (famotidine)"*
- *"Potassium"*
- *"Protonix (pantoprazole sodium)"*
- *"Solumedrol (methylprednisolone)"*
- *"Zofran (ondansetron hydrochloride)"*
- *"None listed"*
- *"Unknown"*

7.1. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW:

Instructions: Review the medical record to determine the date of the first administered dose of the selected medication during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

8. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT CHEMOTHERAPY WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient had an order for chemotherapy during the period of review (i.e., dates indicated). Enter only the doses received after the Midline was placed. This information is likely to be found in the medication orders and/or on the medication administration record (MAR).
INCLUDE: Therapy with any chemotherapy agent. Some examples include (but not limited to): Nitrogen mustards: mechlorethamine (nitrogen mustard), chlorambucil, cyclophosphamide (Cytoxan®), ifosfamide, and melphalan. Nitrosoureas: streptozocin, carmustine (BCNU), and lomustine. Alkyl sulfonates: busulfan. Triazines: dacarbazine (DTIC) and temozolomide (Temodar®). Ethylenimines: thiotepa and altretamine (hexamethyl-melamine). Platinum drugs: cisplatin, carboplatin, and oxalaplatin. Antimetabolites include: 5-fluorouracil (5-FU), 6-mercapto-purine (6-MP), Capecitabine (Xeloda®), Cladribine, Clofarabine, Cytarabine (Ara-C®), Floxuridine, Fludarabine, Gemcitabine (Gemzar®), Hydroxyurea, Methotrexate, Pemetrexed (Alimta®), Pentostatin, Thioguanine. Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®) Ixabepilone (Ixempra®). Vinca alkaloids: vinblastine (Velban®), vincristine (Oncovin®), and vinorelbine (Navelbine®), Estramustine (Emcyt®). Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®). Epothilones: ixabepilone (Ixempra®), Etoposide (Toposar®, VePesid®, Etopophos®),

Rituximab (Rituxan), Daunorubicin (Cerubidine®), Proteasome inhibitors: Bortezomib (Velcade®), Inotuzumab Ozogamicin (Besponsa)
EXCLUDE: Leucovorin, Chimeric antigen receptor (CAR) T cell (CART) Therapy
Note: Example order: Taxol 135 mg/m^2 IV weekly. Taxol is the name of the chemotherapy, 135 is the dose, mg/m^2 is the unit, weekly is the frequency, and IV is the route. Note: If the patient received a multiple drug combo (for example, 3 drug combo) all of the chemotherapy agents should be entered separately.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered chemotherapy during the period of review. ***Answer questions 8.1 through 8.5***
- *"No"* if the medical record does not indicate that the patient was administered chemotherapy during the period of review.
- "*Unknown*" if the medical record was silent as to whether chemotherapy was administered during the period of review.

8.1. NAME OF DRUG

Instructions: Review the medical record to determine the name of the chemotherapy agent administered.
Select one of the following:

- *"Abraxaone"*
- *"Adriamycin"*
- *"ARA-C"*
- *"Bendamusline"*
- *"Bleomycin"*
- *"Carboplatin"*
- *"Carmustine"*
- *"Cisplatin"*
- *"Cyclophosphamide"*
- *"Cytarabine"*
- *"Cytoxan"*
- *"Daunorubicin"*
- *"Decitabine"*
- *"Docetaxel"*
- *"Doxorubicin"*
- *"Eloxatin"*
- *"Etoposide"*
- *"Fludarabine*
- *"Fludara"*

- *"Gemzar"*
- *"Idamycin"*
- *"Idarubicin"*
- *"Ifosfamide"*
- *"Inotuzumab Ozogamicin"*
- *"Leucovorin"*
- *"Methotrexate"*
- *"Mutamycin"*
- *"Oncaspar"*
- *"Oncovin"*
- *"Oxaliplatin"*
- *"Paclitaxel"*
- *"Rituxan"*
- *"Rituximab"*
- *"Taxol"*
- *"Trastuxumab"*
- *"Vepesid"*
- *"Vesanoid"*
- *"Vincristine"*
- *"Other"* if the medical record indicates a chemotherapy agent not listed in the drop selections.

  FOR OTHER, PLEASE SPECIFY THE DRUG NAME.

  Instructions: Free text the name of the drug.

8.2. INDICATION

Instructions: Review the medical record to determine the reason that the patient was administered chemotherapy. Select the reason from the drop-down selections. If more than one option is the reason for the chemotherapy infusion, select one of the documented indications from the drop-down selections.
Choose one of the following:

- *"Breast Cancer"* if the medical record indicates the patient was administered chemotherapy for breast cancer treatment.
- *"Cancer – Not otherwise specified"* if the medical record indicates the patient was administered chemotherapy for a cancer not listed as a choice in this list of options.
- *"Esophageal Cancer"* if the medical record indicates the patient was administered chemotherapy for esophageal cancer treatment.

- *"Leukemia"* if the medical record indicates the patient was administered chemotherapy for treatment of leukemia.
- *"Liver Cancer"* if the medical record indicates the patient was administered chemotherapy for liver cancer treatment.
- *"Lymphoma"* if the medical record indicates the patient was administered chemotherapy for treatment of lymphoma.
- *"Multiple Myeloma"* if the medical record indicates the patient was administered chemotherapy for the treatment of multiple myeloma.
- *"Non-Cancer Diagnosis"* if the medical record indicates the patient was administered chemotherapy for treatment of a non-cancer diagnosis. (for example: rheumatoid arthritis)
- *"Non-Small Cell Lung Cancer"* if the medical record indicates the patient was administered chemotherapy for non-small cell lung cancer treatment.
  Note: If the indication is noted as lung cancer without the type of indication, please select Lung-Non small cell.
- *"Pancreatic Cancer"* if the medical record indicates the patient was administered chemotherapy for pancreatic cancer treatment.
- *"Small Cell Lung Cancer"* if the medical record indicates the patient was administered chemotherapy for small cell lung cancer treatment.
  Note: If the indication is noted as lung cancer, without the type of indication please select Lung-Non small cell.
- *"Unknown"* if the indication for the chemotherapy is not documented in the medical record.

8.3. DATE OF FIRST DOSE ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the date of the first administered dose of chemotherapy during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

8.4. ROUTE

Instructions: Indicate the route in which the chemotherapy was administered. Select one of the following:

- "*Intravenous (IV) Continuous Infusion*" if the medical record indicates that the chemotherapy was administered intravenously. ***Answer question 8.4.1***
- *"By Mouth (PO)"* if the medical record indicates that the chemotherapy was administered orally.

- *"Subcutaneous (SQ)"* if the medical record indicates that the chemotherapy was administered subcutaneously.
- *"Intrathecal"* if the medical record indicates that the chemotherapy was administered intrathecally.
- *"Intramuscular"* if the medical record indicates that the chemotherapy was administered intramuscularly.
- *"Unknown"* if the medical record is silent as to the route in which the chemotherapy was administered.

8.4.1. WAS THE CHEMOTHERAPY ADMINISTERED THROUGH THE MIDLINE?

Instructions: Review the medical record to determine if the chemotherapy was administered (i.e., ordered AND given) through the Midline of interest. This information is likely to be found on the medication administration record (MAR) or within infusion notes.

INCLUDE: Documentation that the chemo was administered using the Midline of interest. Documentation that the chemo was administered and the Midline of interest is the patient's only vascular access device.

EXCLUDE: Chemo administered orally, through a short peripheral IV, through a port, or through a CVC.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered chemotherapy through the Midline of interest at any point during the period of review, not just the one dose.

  Note: For example: if a patient was receiving chemotherapy and the first dose was on 4/15/17, but it was given via a port. On 4/17/17, it was infused through the Midline. You would still say "Yes" to infused through the Midline because at some point during the period of review it was.
- *"No"* if the medical record does not indicate that the patient was administered chemotherapy through the Midline of interest.
- *"Unknown"* if the medical record was silent as to whether the chemotherapy was administered through the Midline of interest.

8.5. DID THE PATIENT HAVE AN ADDITIONAL CHEMOTHERAPY AGENT ADMINISTERED DURING THE PERIOD OF REVIEW?

Instructions: Review the medical record to determine if the patient had an order for chemotherapy during the period of review (i.e., dates indicated). Enter only the

doses received after the Midline was placed. This information is likely to be found in the medication orders and/or on the medication administration record (MAR). INCLUDE: Therapy with any chemo agent. Some examples include (but not limited to): Nitrogen mustards: mechlorethamine (nitrogen mustard), chlorambucil, cyclophosphamide (Cytoxan®), ifosfamide, and melphalan. Nitrosoureas: streptozocin, carmustine (BCNU), and lomustine. Alkyl sulfonates: busulfan. Triazines: dacarbazine (DTIC) and temozolomide (Temodar®). Ethylenimines: thiotepa and altretamine (hexamethyl-melamine). Platinum drugs: cisplatin, carboplatin, and oxalaplatin. Antimetabolites include: 5-fluorouracil (5-FU), 6-mercapto-purine (6-MP), Capecitabine (Xeloda®), Cladribine, Clofarabine, Cytarabine (Ara-C®), Floxuridine, Fludarabine, Gemcitabine (Gemzar®), Hydroxyurea, Methotrexate, Pemetrexed (Alimta®), Pentostatin, Thioguanine. Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®) Ixabepilone (Ixempra®). Vinca alkaloids: vinblastine (Velban®), vincristine (Oncovin®), and vinorelbine (Navelbine®), Estramustine (Emcyt®). Taxanes: paclitaxel (Taxol®) and docetaxel (Taxotere®). Epothilones: ixabepilone (Ixempra®)
Note1: Example order: Taxol 135 mg/m^2 IV weekly. Taxol is the name of the chemotherapy, 135 is the dose, mg/m^2 is the unit, weekly is the frequency, and IV is the route.
Note2: This question will repeat up to five times to enable input of multiple chemo agents administered during the period of review.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an additional chemotherapy agent administered during the period of review.
- *"No"* if the medical record does not indicate that the patient had an additional chemotherapy agent administered during the period of review.
- *"Unknown"* if the medical record is silent as to whether the patient received an additional chemotherapy agent during the period of review.

9. **INDICATE THE CATHETER LOCK SOLUTION(S) USED FOR THE MIDLINE**
Instructions: Review the medical record to determine the type(s) of catheter lock solution used for the Midline (i.e., the types of flushes used to lock the Midline lumens between medication administrations). This information may be found in the medication administration record (MAR), or within nursing's documentation of Midline care. Only include flushes and no continuous drips.
Select all that apply:

- *"Heparin"* if the medical record indicates that heparin was used as catheter lock solution for the Midline.

INCLUDE: Heparin lock flush injection, hep-flush, hep-lock

- *"Saline"* if the medical record indicates that saline was used as catheter lock solution for the Midline.
  INCLUDE: Saline flush, 0.9% Sodium Chloride, NaCl, Normal Saline flush
- *"Ethanol"* if the medical record indicates that ethanol was used as catheter lock solution for the Midline.
  INCLUDE: Ethanol lock, ethanol lock therapy (ELT), 70% ethanol lock, ethyl alcohol
- *"Antibiotic"* if the medical record indicates that an antibiotic was used as catheter lock solution for the Midline.
  INCLUDE: Antibiotics that are administered into the Midline as a lock solution (i.e., small amount of antibiotic is infused into the Midline, so that it stays within the actual Midline catheter and does not get administered into the patient's circulation). The antibiotics used may include vancomycin, cefazolin, gentamycin, amikacin. The dose will likely be very small, for example Vancomycin 1mg/ml.
  EXCLUDE: Antibiotics that are administered to the patient via the Midline that are not intended for lock use.
- *"Ethylenediaminetetraacetic acid (EDTA)"* if the medical record indicates that EDTA was used as catheter lock solution for the Midline.
  INCLUDE: Ethylenediaminetetraacetic acid (EDTA), M-EDTA, minocycline-EDTA flush
- *"Taurolidine and Citrate (TauroLock)"* if the medical record indicates that TauroLock was used as catheter lock solution for the Midline.
  INCLUDE: Taurolidine and citrate (TauroLock), (cyclo)-taurolidine and citrate (4%)
- *"Other"* if the medical record indicates that a solution other than those indicated above was used as catheter lock solution.

  FOR OTHER, SPECIFY THE CATHETER LOCK SOLUTION
  Instructions: Specify the type of solution used as catheter lock solution using free text.
- *"Unknown"* if the medical record is silent as to the kind of catheter lock solution that was used for the Midline.

10. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT THE MIDLINE WAS USED FOR BLOOD DRAWS DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the Midline was used for blood draws during the period of review.

Select one of the following:

- *"Yes"* if the medical record indicates that the midline was used for blood draws during the period of review.
  INCLUDE: Any documentation of blood draws through the Midline
- *"No"* if the medical record indicates that the midline was not used for blood draws during the period of review.
- *"Unknown"* if the medical record is silent as to whether the Midline was used for blood draws during the period of review.

11. **IS THERE DOCUMENTATION WITHIN THE MEDICAL RECORD THAT MECHANICAL PROPHYLAXIS WAS ADMINISTERED TO THE PATIENT DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was administered a mechanical form of venous thromboembolism (VTE) prophylaxis during the period of review (i.e., dates indicated).
INCLUDE: All mechanical compression devices administered regardless of length (i.e., knee length or thigh length). Graduated compression stockings (GCS), intermittent pneumatic compression device (IPC), intermittent compression device (ICD), sequential compression device (SCD), venous foot pump (VFP), continuous enhanced circulation therapy (CECT), graduated TED hose.
EXCLUDE: Orders for mechanical prophylaxis without evidence of being administered.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was administered mechanical prophylaxis during the period of review.
- *"No"* if the medical record does not indicate that the patient was administered mechanical prophylaxis during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient was administered mechanical prophylaxis during the period of review.

Major Complications: Bleeding

1. **DID THE PATIENT RECEIVE WHOLE BLOOD, PRBCs, PLATELETS OR A PLASMA TRANSFUSION DURNG THE PERIOD OF REVIEW?**

INCLUDE: Whole blood, PRBCs, platelets and plasma transfusions that were ordered and administered to the patient.
Choose one of the following answers:

- *"Yes"* if the medical record indicates that the patient received whole blood, PRBCs, platelets and/or plasma transfusion(s) during the period of review. ***Answer questions 1.1 through 1.3***
  INCLUDE: Enter only the transfusions received after the Midline was placed.
- *"No"* if the medical record does not indicate that the patient received whole blood, PRBCs, platelets and/or plasma transfusion(s) during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient received whole blood, PRBCs, platelets and/or plasma transfusion(s) during the period of review.

1.1. DID THE PATIENT RECEIVE WHOLE BLOOD OR A PRBC TRANSFUSION DURING THE PERIOD OF REVEW?
INCLUDE: Whole blood or PRBC transfusions that were ordered and administered to the patient.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient received whole blood or PRBC transfusion(s) during the period of review. ***Answer questions 1.1.1 through 1.1.4***
  INCLUDE: Enter only the transfusions received after the MIDLINE was placed
- *"No"* if the medical record does not indicate that the patient received whole blood or PRBC transfusion(s) transfusion during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient received whole blood or PRBC transfusion(s) during the period of review.

1.1.1. HOW MANY UNITS (CUMULATIVE) OF WHOLE BLOOD AND PRBCs WAS THE PATIENT ADMINISTERED DURING THE PERIOD OF REVIEW?
Instructions: Review the medical record to determine how many cumulative (i.e. the total number) units of whole blood and PRBCs were administered (i.e. ordered and given) during the period of review. There are five (5) options for this question.
INCLUDE: Only include units of whole blood or PRBCs that were transfused.
EXCLUDE: Units of whole blood or PRBCs that were ordered, but not administered.
Select one of the following:

- *“1”* if the medical record indicates that the patient was administered one (1) unit of whole blood or PRBCs during the period of review.
- *"2"* if the medical record indicates that the patient was administered two (2) units of whole blood and/or PRBCs during the period of review.
- *"3"* if the medical record indicates that the patient was administered three (3) units of whole blood and/or PRBCs during the period of review.
- *"4"* if the medical record indicates that the patient was administered four (4) units of whole blood or PRBCs during the period of review.
- *"5+"* if the medical record indicates that the patient was administered five or more (5+) units of whole blood and/or PRBCs during the period of review.
- *“Unknown”* if the medical record is silent as the number of units of whole blood and/or PRBCs administered during the period of review.

1.1.2. DATE OF FIRST WHOLE BLOOD/PRBC TRANSFUSION

Instructions: Review the medical record to determine the date of the first whole blood or PRBCs transfusion that was administered during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.1.3. WERE ANY OF THE WHOLE BLOOD/PRBC TRANSFUSIONS ADMINISTERED THROUGH THE MIDLINE?

Instructions: Review the medical record to determine if any of the units of whole blood or PRBCs transfused during the period of review were administered (i.e. given) through the Midline of interest. This information is likely to be found on the medication administration record (MAR) or within the nursing documentation.

INCLUDE: Documentation that one or more units of whole blood or PRBCs were administered through the Midline of interest during the period of review.

EXCLUDE: Whole blood or PRBCs that were administered through a short peripheral IV, port, or CVC.

Select one of the following:

- *"Yes"* if the medical record indicates that there was whole blood or PRBCs administered through the Midline of interest.
- *"No"* if the medical record does not indicate that there was whole blood or PRBCs administered through the Midline of interest.
- *"Unknown"* if the medical record was silent as to whether the whole blood or PRBCs was administered through the Midline of interest.

1.1.4. INDICATE THE REASON(S) FOR THE WHOLE BLOOD/PRBC TRANSFUSION(S)

Instructions: Review the medical record to determine the reason(s) for administration of the whole blood/PRBC tranfusion(s).
Check any that apply:

- *"Bleeding"* if the medical record indicates that the patient received a whole blood or PRBC transfusion for bleeding.
  INCLUDE: Bleeding related to hemorrhage or hematoma. Examples of bleeding may include epistaxis, gastrointestinal (GI) bleed, genitourinary (GU) bleed, hemoptysis, intracranial hemorrhage.
- *"Anemia (Chronic Illness)"* if the medical record indicates the patient received a whole blood or PRBC transfusion for anemia.
  INCLUDE: Examples may include pancytopenia secondary to chemotherapy.
- *"Hemolysis"* if the medical record indicates the patient received a whole blood or PRBC transfusion for hemolysis.
- *"Other"* if the patient received a whole blood or PRBC transfusion for something other than what is listed above.
  INCLUDE: Examples may include Disseminated Intravascular Coagulopathy (DIC).

  FOR OTHER, PLEASE SPECIFY
  Instructions: Free text the reason specified for the whole blood/PRBC transfusion(s).

1.2. DID THE PATIENT RECEIVE A PLATELET TRANSFUSION DURING THE PERIOD OF REVIEW?

INCLUDE: Platelet transfusions that were ordered and administered to the patient.
Chose one of the following answers:

- *"Yes"* if the medical record indicates that the patient received platelets transfusion(s) during the period of review. Enter only the transfusions received after the Midline was placed ***Answer questions 1.2.1 through 1.2.2***
- *"No"* if the medical record does not indicate that the patient received platelets transfusion(s) during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient received whole blood, PRBCs, platelets and/or plasma transfusion(s) during the period of review.

1.2.1. DATE OF FIRST PLATELET TRANSFUSION

Instructions: Review the medical record to determine the date of the first platelet transfusion that was administered during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown

1.2.2. WERE ANY OF THE PLATELET TRANSFUSIONS ADMINISTERED THROUGH THE MIDLINE?

Instructions: Review the medical record to determine if any of the units of platelets transfused during the period of review were administered (i.e. given) through the Midline of interest. This information is likely to be found on the medication administration record (MAR) or within the nursing documentation.

INCLUDE: Documentation that one or more units of platelets were administered through the Midline of interest during the period of review.

EXCLUDE: Platelets that were administered through a short peripheral IV, port, or CVC.

Select one of the following:

- *"Yes"* if the medical record indicates that there were platelets administered through the Midline of interest.
- *"No"* if the medical record does not indicate that there were platelets administered through the Midline of interest.
- *"Unknown"* if the medical record was silent as to whether the platelets were administered through the Midline of interest.

1.3 DID THE PATIENT RECEIVE A PLASMA TRANSFUSION DURING THE PERIOD OF REVIEW?

Instructions: Review the medical record to determine if the patient received a plasma transfusion during the period of review.

INCLUDE: Plasma transfusions that were ordered and administered to the patient.

EXCLUDE: Plasmapheresis, cryoprecipitate transfusion, intravenous immunoglobulin (IVIG).

Select one of the following:

- *"Yes"* if the medical record indicates that the patient received plasma transfusion(s) during the period of review. Enter only the transfusions received after the Midline was placed ***Answer questions 1.3.1 through 1.3.2***

- *"No"* if the medical record does not indicate that the patient received plasma transfusion(s) during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient received plasma transfusion(s) during the period of review.

1.3.1. DATE OF FIRST PLASMA TRANSFUSION

Instructions: Review the medical record to determine the date of the first plasma transfusion that was administered during the period of review. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.3.2. WERE ANY OF THE PLASMA TRANSFUSIONS ADMINISTERED THROUGH THE MIDLINE?

Instructions: Review the medical record to determine if any of the units of plasma transfused during the period of review were administered (i.e. given) through the Midline of interest. This information is likely to be found on the medication administration record (MAR) or within the nursing documentation. There are three (3) options for this question.

INCLUDE: Documentation that one or more units of plasma were administered through the Midline of interest during the period of review.

EXCLUDE: Plasma that was administered through a short peripheral IV, port, or CVC.

Select one of the following answers:

- *"Yes"* if the medical record indicates that there was plasma administered through the Midline of interest.
- *"No"* if the medical record does not indicate that there was plasma administered through the Midline of interest.
- *"Unknown"* if the medical record was silent as to whether the plasma was administered through the Midline of interest.

Major Complications: VTE

1. **WAS THE PATIENT DIAGNOSED WITH A CONFIRMED OR SUSPECTED DEEP VEIN THROMBOSIS (DVT) DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was diagnosed with a deep vein thrombosis (DVT) during the period of review (i.e., dates indicated). DVT may occur in the upper extremities and/or lower extremities.
INCLUDE: Documentation of a new diagnosis of DVT in one or more of the deep veins of the lower extremity (common iliac vein, internal iliac vein, external iliac vein, common femoral vein, deep femoral (profunda femoris) vein, femoral vein, popliteal vein, gastrocnemius vein, anterior tibial vein, soleus (soleal sinus) vein, peroneal vein, tibioperoneal vein, posterior tibial vein) and/or the upper extremity (subclavian vein, axillary vein, brachial vein, radial vein, ulnar vein, innominate vein (brachiocephalic)). DVTs that are present at the time of Midline placement but show additional vein involvement or extension during the period of review should be included.
Note: Include new or worsening DVTs documented as suspected or confirmed from 2 days after Midline placement through the day after Midline removal, or 30 days after Midline placement, whichever occurs first.
EXCLUDE: DVTs present at the time of Midline placement, which includes those diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement. These should be captured in the Medical History section of the Baseline form as "Active at the time of Midline placement". Superficial veins of the upper and lower extremities (cephalic vein, median cephalic vein, basilic vein, median cubital vein, median forearm vein, greater saphenous vein, lesser saphenous vein), internal/external jugular thrombosis, clots located within central venous catheters (CVCs) (even if the CVC is located within a deep vein, as long as the clot is only within the catheter, e.g., pericatheter thrombus), and hepatic/renal/splenic/mesenteric thromboses, arterial occlusions. Suspected DVTs should not be included if the DVT was ruled out by diagnostic testing (i.e., diagnostic testing was negative).
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was diagnosed with a DVT during the period of review. ***Answer questions 1.1 through 1.6***
- *"No"* if the medical record does not indicate that the patient was diagnosed with a DVT during the period of review.
- *"Unknown"* if the medical record is silent as to whether the patient was diagnosed with a DVT during the period of review.

1.1. WAS THE DEEP VEIN THROMBOSIS (DVT):
Instructions: Review the medical record to determine if the DVT was either confirmed via diagnostic testing or suspected.
Select one of the following:

- "*Confirmed*" if the medical record indicates that the deep vein thrombosis (DVT) was confirmed via diagnostic imaging.
- "*Suspected*" if the medical record indicates that the deep vein thrombosis (DVT) was not confirmed via diagnostic imaging however highly suspicious for given the clinical scenario.

1.2. DATE OF THE FIRST CONFIRMED/SUSPECTED DVT

Instructions: Review the medical record to determine the date that the DVT was diagnosed. This is likely to be found on a diagnostic study report (i.e., doppler study, CT, etc.), or within the progress notes. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.3. WHAT TEST(S) WERE USED FOR THE DIAGNOSIS OF THE CONFIRMED/SUSPECTED DVT?

Instructions: Review the medical record to determine which test(s) were used to confirm the diagnosis of the DVT. If more than one test was used, check all tests that apply.

Select all that apply:

- *"Computerized Tomography Scan (CT)"* if the medical record indicates that the DVT was diagnosed via CT scan.
  INCLUDE: Computerized Tomography Scan (CT), computed tomography, CAT scan, CT scan
- *"Magnetic Resonance Imaging (MRI)"* if the medical record indicates that the DVT was diagnosed via MRI.
  INCLUDE: Magnetic Resonance Imaging (MRI)
- "*Venogram*" if the medical record indicates that the DVT was diagnosed via venogram.
  INCLUDE: venogram, phlebography, venogram
- *"Ultrasound with doppler"* if the medical record indicates that the DVT was diagnosed via ultrasound with doppler.
  INCLUDE: Ultrasound with doppler, doppler ultrasound, duplex ultrasound, venous doppler ultrasound
- *"Ultrasound without doppler"* if the medical record indicates that the DVT was diagnosed via ultrasounds without doppler.
  INCLUDE: ultrasound, compression ultrasound.
- "*None of the above*" if the medical record indicates that the DVT was diagnosed with none of the methods listed above.

- "*Unknown*" if the medical record is silent as to the test used for the diagnosis of the DVT.

1.4. INDICATE THE LOCATION OF THE CONFIRMED/SUSPECTED DVT

Instructions: Review the medical record to determine the location of the DVT. If more than one location is involved, check all that apply.
Select all that apply:

- *"Right Lower Extremity"* if the medical record indicates that the DVT was located in one or more of the deep veins of the right lower extremity. INCLUDE: Only include lower extremity DVT in the right common iliac vein, internal iliac vein, external iliac vein, common femoral vein, deep femoral (profunda femoris) vein, femoral vein, popliteal vein, gastrocnemius vein, anterior tibial vein, soleus (soleal sinus) vein, peroneal vein, tibioperoneal vein, and/or posterior tibial vein. ***Answer question 1.4.1***
- *"Left Lower Extremity"* if the medical record indicates that the DVT was located in one or more of the deep veins of the left lower extremity. INCLUDE: Only include lower extremity DVT in the left common iliac vein, internal iliac vein, external iliac vein, common femoral vein, deep femoral (profunda femoris) vein, femoral vein, popliteal vein, gastrocnemius vein, anterior tibial vein, soleus (soleal sinus) vein, peroneal vein, tibioperoneal vein, and/or posterior tibial vein. ***Answer question 1.4.1***
- *"Left Upper Extremity"* if the medical record indicates that the DVT was located in one or more of the deep veins of the left upper extremity. INCLUDE: Only include upper extremity DVT in the left subclavian vein, axillary vein, brachial vein, radial vein, ulnar veins, and/or innominate vein (brachiocephalic). ***Answer question 1.4.2***
- *"Right Upper Extremity"* if the medical record indicates that the DVT was located in one or more of the deep veins of the right upper extremity. INCLUDE: Only include upper extremity DVT in the right subclavian vein, axillary vein, brachial vein, radial vein, ulnar veins, and/or innominate (brachiocephalic). ***Answer question 1.4.2***
- *"Unknown"* if the medical record is silent as to the location of the DVT.

1.4.1. FOR LOWER EXTREMITIES, INDICATE THE VEIN(S) INVOLVED

Instructions: Review the medical record to determine the vein in which the DVT was located. If more than one DVT was found, check all that apply.
Select all that apply:

- *"Common iliac"* if the medical record indicates that the DVT of the lower extremity was within in the common iliac vein.
- *"Internal iliac"* if the medical record indicates that the DVT of the lower extremity was within the internal iliac vein.
- *"External iliac"* if the medical record indicates that the DVT of the lower extremity was within the external iliac vein.
- *"Common femoral"* if the medical record indicates that the DVT of the lower extremity was within the common femoral vein.
- *Include: Diagnosis of a DVT in the superficial femoral vein.*
- *"Deep femoral"* if the medical record indicates that the DVT of the lower extremity was within the deep femoral vein.
- *"Femoral"* if the medical record indicates that the DVT of the lower extremity was within the femoral vein.
- *"Popliteal"* if the medical record indicates that the DVT of the lower extremity was within the popliteal vein.
- *"Gastrocnemius"* if the medical record indicates that the DVT of the lower extremity was within the gastrocnemius vein.
- *"Anterior Tibial"* if the medical record indicates that the DVT of the lower extremity was within the anterior tibial vein.
- *"Soleus"* if the medical record indicates that the DVT of the lower extremity was within the soleus vein.
- *"Peroneal"* if the medical record indicates that the DVT of the lower extremity was within the peroneal vein.
  INCLUDE: Tibioperoneal vein
- *"Posterior Tibial"* if the medical record indicates that the DVT of the lower extremity was within the posterior tibial vein.
- *"Unknown"* if the medical record was silent as to the vein which the lower extremity DVT was in.

1.4.2. FOR UPPER EXTREMITIES INDICATE THE VEIN(S) INVOLVED

Instructions: Review the medical record to determine the vein in which the DVT was located. If more than one DVT was found, check all that apply.
Select all that apply:

- *"Subclavian"* if the medical record indicates that the DVT of the upper extremity was within the subclavian vein.
- *"Brachial"* if the medical record indicates that the DVT of the upper extremity was within the brachial vein.

- *"Axillary"* if the medical record indicates that the DVT of the upper extremity was within the axillary vein.
- *"Ulnar"* if the medical record indicates that the DVT of the upper extremity was within the ulnar vein.
- *"Innominate"* if the medical record indicates that the DVT of the upper extremity was within the innominate vein.
  INCLUDE: Innominate vein, brachiocephalic vein
- *"Radial"* if the medical record indicates that the DVT of the upper extremity was within the radial vein.
- *"Unknown"* if the medical record was silent as to the vein which the upper extremity DVT was in.

1.5. DID THE PATIENT HAVE ANY OF THE FOLLOWING SYMPTOMS?

Instructions: Review the medical record to determine if the patient the patient had any symptoms associated with the DVT (i.e., was the patient symptomatic).
Note: Only review for symptoms through the day after Midline removal if DVT occurred the day after Midline removal.
Select all that apply:

- *"Pain"* if the medical record indicates that the patient had pain in the extremity or extremities with the DVT.
  INCLUDE: Any rating of pain in the extremity or extremities diagnosed with DVT. Pain also may be described as stabbing, throbbing, burning, aching, etc.
- *"Swelling"* if the medical record indicates that the patient had swelling in the extremity or extremities with the DVT.
  INCLUDE: Any documentation of swelling, edema, or edematous in the extremity or extremities diagnosed with DVT
- *"Redness"* if the medical record indicates that the patient had redness in the extremity or extremities with the DVT.
  INCLUDE: Any documentation of redness or erythema in the extremity or extremities diagnosed with DVT
- *"Tenderness"* if the medical record indicates that the patient had tenderness in the extremity or extremities with the DVT.
  INCLUDE: Any documentation of tenderness or discomfort when the affected extremity or extremities (i.e., the extremity with DVT) are touched.
- *"MIDLINE malfunction"* if the medical record indicates that the patient had Midline malfunction in the extremity with the DVT.
  INCLUDE: Any documentation that the patient had Midline malfunctioning in the extremity with the DVT. Midline malfunction may include inability to flush

the Midline, kinking of the Midline, leaking at the insertion site, etc.
- *"No symptoms indicated"* if the medical record indicates that the patient did not have any of the above symptoms.
- *"Unknown"* if the medical record was silent as to any symptoms in the extremity or extremities with the DVT.

1.6. INDICATE THE CLASSIFICATION OF DVT FROM THE TEST RESULT

Instructions: Review the medical record to determine the classification of the DVT as reported per the test result (i.e., CT result, doppler result, etc.). If more than one DVT was found, the patient may have more than one classification of DVT. For example, a patient may have a chronic DVT in a lower extremity with the presence of an additional acute clot somewhere else.

Select all that apply:

- *"Acute"* if the medical record indicates that the DVT was acute.
  INCLUDE: Documentation that the DVT was acute
- *"Chronic"* if the medical record indicates that the DVT was chronic.
  INCLUDE: Documentation that the DVT was chronic
- *"Unknown"* if the medical record is silent as to whether the DVT was acute or chronic.

1.7. WHICH OF THE FOLLOWING WERE ORDERED FOR TREATMENT?

Instructions: Review the medical record to determine which of the following treatment were used to treat the patient's DVT. If more than one treatment was used, check all that apply. There are ten (10) options for this question.

Note: Only review for treatment through the day after Midline removal if DVT occurred the day after Midline removal.

Select all that apply:

- *"Catheter Directed Thrombolysis"* if the medical record indicates that the patient received catheter directed thrombolysis.
  INCLUDE: Catheter directed thrombolysis (CDT), percutaneous procedure with the administration of a lytic directly into the clot through a catheter
- *"IVC Filter Placed"* if the medical record indicates that the patient had an IVC filtered placed.
  INCLUDE: Inferior Vena Cava (IVC) filter, Greenfield IVC filter
- *"SVC Filter Placed"* if the medical record indicates that the patient had an SVC filter placed.
  INCLUDE: Superior vena cava (SVC) filter, Greenfield SVC filter

- *"Systemic Anticoagulation"* if the medical record indicates the patient received systemic anticoagulation.
  INCLUDE: New orders for an anticoagulant (i.e., Warfarin, Lovenox, Heparin gtt etc.) following DVT diagnosis.
- *"Already Receiving Treatment Anticoagulant"* if the medical record indicates the patient was already receiving systemic anticoagulation and no additional anticoagulant was to be ordered for treatment of the DVT.
  INCLUDE: Select this option if a patient was already receiving a treatment dose of an anticoagulant and no additional anticoagulant was to be ordered for treatment of the DVT.
- *"Intravenous Thrombolysis"* if the medical record indicates that the patient received intravenous thrombolysis.
  INCLUDE: Intravenous thrombolysis, Intravenous fibrinolytic therapy, thrombolytic therapy with a drug such a tPA
- *"MIDLINE Removal"* if the medical record indicates that the patient had their MIDLINE removed.
  INCLUDE: Documentation that the Midline was removed because of the DVT diagnosis
- *"Other"* if the medical record indicates that the patient had a treatment not indicated above.
- *"No Treatment Ordered"* if the medical record indicates that there was no treatment ordered.
- *"Unknown"* if the medical record is silent as to the treatment used for the DVT.

2. **WAS THE PATIENT DIAGNOSED WITH A CONFIRMED OR SUSPECTED PULMONARY EMBOLISM (PE) DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was diagnosed with a pulmonary embolism (PE) during the period of review (i.e., dates indicated).
Note: Include PEs documented as suspected or confirmed through the day after Midline removal or 30 days after Midline placement, whichever is first.
INCLUDE: A new pulmonary embolism (PE) diagnosed during the period of review
EXCLUDE: PE present at the time of Midline placement, which includes those diagnosed the day before Midline placement, the day of Midline placement, or the day after Midline placement. These should be captured in the Medical History section of the Baseline form as "Active at the time of Midline placement". Non-blood clot emboli such as septic pulmonary emboli. Suspected PEs should not be included if the PE was ruled out by diagnostic testing (i.e., diagnostic testing was negative).
Select one of the following:

- *"Yes"* if the medical record indicates that the patient was diagnosed with a PE during the period of review. ***Answer questions 2.1 through 2.5***
- *"No"* if the medical record does not indicate that the patient was diagnosed with a PE during the period of review.
- *"Unknown"* if the medical record is silent as to whether the patient was diagnosed with a PE during the period of review.

2.1. WAS THE PULMONARY EMBOLISM (PE):
Instructions: Review the medical record to determine if the pulmonary embolism was confirmed or suspected.
Select one of the following:

- "*Confirmed*" if the medical record indicates that the pulmonary embolism (PE) was confirmed via diagnostic imaging.
- "*Suspected*" if the medical record indicates that the pulmonary embolism (PE) was not confirmed via diagnostic imaging however highly suspicious for given the clinical scenario.

2.2. DATE OF THE FIRST CONFIRMED/SUSPECTED PE
Instructions: Review the medical record to determine the date that the pulmonary embolism (PE) was diagnosed. This is likely to be found on a diagnostic study report (i.e., CT, MRI, etc.) or within the progress notes. Enter the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2.3. WHAT TEST(S) WERE USED FOR THE DIAGNOSIS OF THE CONFIRMED/SUSPECTED PE?
Instructions: Review the medical record to determine which test(s) were used to confirm the diagnosis of the PE. If more than one test was used, check all tests that apply.
Select all that apply:

- *"Computerized Tomography Scan (CT)"* if the medical record indicates that the PE was diagnosed via CT scan.
  INCLUDE: Computerized Tomography Scan (CT), computed tomography, CAT scan, CT scan
- *"Magnetic Resonance Imaging (MRI)"* if the medical record indicates that the PE was diagnosed via MRI.
  INCLUDE: Magnetic Resonance Imaging (MRI)
- *"Ventilation/Perfusion scan"* if the medical record indicates that the PE was diagnosed via ventilation/perfusion scan.

INCLUDE: Ventilation/perfusion scan, V/Q scan

- *"Pulmonary venogram"* if the medical record indicates that the PE was diagnosed via pulmonary venogram.
  INCLUDE: Pulmonary venogram, pulmonary angiography
- *"Other"* if the medical record indicates that the PE was diagnosed via a test not indicated above.
- "*None of the above*" if the medical record indicates that the PE was diagnosed with none of the methods listed above.
- "*Unknown*" if the medical record is silent as to the test used for the diagnosis of the PE.

2.4. DID THE PATIENT HAVE ANY OF THE FOLLOWING SYMPTOMS?

Instructions: Review the medical record to determine if the patient the patient had any symptoms associated with the PE (i.e., was the patient symptomatic).
Note: Only review for symptoms through the day after Midline removal if PE occurred the day after Midline removal.
Select all that apply:

- *"Chest pain"* if the medical record indicates that the patient had chest pain associated with the diagnosis of PE.
  INCLUDE: Documentation that the patient experienced chest pain or angina at the time of PE diagnosis.
- *"Shortness of Breath"* if the medical record indicates that the patient had shortness of breath associated with the diagnosis of PE.
  INCLUDE: Documentation that the patient experienced shortness of breath (SOB) or difficulty breathing (DIB) at the time of PE diagnosis.
- *"Cardiogenic Shock"* if the medical record indicates that the patient had cardiogenic shock associated with the diagnosis of PE.
  INCLUDE: Documentation that the patient experienced cardiogenic shock at the time of PE diagnosis.
- *"Hemoptysis*" if the medical record indicates that the patient had hemoptysis associated with the diagnosis of PE.
  INCLUDE: Documentation that the patient experienced hemoptysis (i.e., spitting up blood, blood in sputum) at the time of PE diagnosis.
- *"Hypoxia*" if the medical record indicates that the patient had hypoxia associated with the diagnosis of PE.
  INCLUDE: Documentation that the patient experienced hypoxia (i.e., oxygen deprivation, low oxygen saturation) at the time of PE diagnosis.

- *"No symptoms indicated"* if the medical record indicates that the patient did not have any symptoms associated with the diagnosis of PE.
- *"Unknown"* if the medical record is silent as to the symptoms.

2.5. WHICH OF THE FOLLOWING WERE ORDERED FOR TREATMENT?

Instructions: Review the medical record to determine which of the following treatments were used to treat the patient's PE. If more than one treatment was used, check all that apply.

Note: Only review for treatment through the day after Midline removal if PE occurred the day after Midline removal.

Select all that apply:

- *"Catheter Directed Thrombolysis"* if the medical record indicates that the patient received catheter directed thrombolysis.
  INCLUDE: Catheter directed thrombolysis (CDT), percutaneous procedure with the administration of a lytic directly into the clot through a catheter
- *"IVC Filter Placed"* if the medical record indicates that the patient had an IVC filtered placed.
  INCLUDE: Inferior Vena Cava (IVC) filter, Greenfield IVC filter
- *"SVC Filter Placed"* if the medical record indicates that the patient had an SVC filter placed.
  INCLUDE: Superior vena cava (SVC) filter, Greenfield SVC filter
- *"Systemic Anticoagulation"* if the medical record indicates that the patient received systemic anticoagulation.
  INCLUDE: A new order for an anticoagulant (i.e., warfarin, Lovenox, etc.) following PE diagnosis.
- *"Already Receiving Treatment Anticoagulation"* if the medical record indicates the patient was already receiving systemic anticoagulation and no additional anticoagulant was to be ordered for treatment of the PE.
  INCLUDE: Select this option if a patient was already receiving a treatment dose of an anticoagulant and no additional anticoagulant was to be ordered for treatment of the PE.
- *"Intravenous Thrombolysis"* if the medical record indicates that the patient received intravenous thrombolysis.
  INCLUDE: Intravenous thrombolysis, Intravenous fibrinolytic therapy, thrombolytic therapy with a drug such a tPA
- *"Midline Removal"* if the medical record indicates that the patient had their Midline removed.

INCLUDE: Documentation that the Midline was removed because of the PE diagnosis
- *"Other"* if the medical record indicates that the patient had a treatment not indicated above.
- *"No Treatment Ordered"* if the medical record indicates that there was no treatment ordered.
- *"Unknown"* if the medical record is silent as to the treatment ordered.

Major Complications: Device Related Blood Stream Infection

1. **DID THE MEDICAL RECORD REFLECT THE DIAGNOSIS OF A DEVICE-RELATED BLOOD STREAM INFECTION RELATED TO THE MIDLINE DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient had a diagnosis of a device-related blood stream infection related to the Midline during the period of review (i.e., dates indicated).
Note: Include diagnosis of Device-Related Blood Stream Infection related to the Midline documented through the day after Midline removal or 30 days after Midline placement, whichever is first.
INCLUDE: Documentation that the patient had a diagnosis of a device-related blood stream infection related to the Midline during the period of review.
EXCLUDE: Blood stream infections (BSI) secondary to an infection at another site.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a diagnosis of a device-related blood stream infection related to the Midline during the period of review. ***Answer question 1.1***
- *"No"* if the medical record does not indicate that the patient had a diagnosis of a device-related blood stream infection related to the Midline during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient had a diagnosis of a device-related blood stream infection related to the Midline during the period of review.

1.1. DATE OF DIAGNOSIS OF DEVICE-RELATED BLOOD STREAM INFECTION

Instructions: Review the medical record to determine the date of the diagnosis of a device-related blood stream infection related to the Midline during the period of review. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2. **DID THE MEDICAL RECORD REFLECT THE DIAGNOSIS OF LINE SEPSIS OR BACTEREMIA RELATED TO THE MIDLINE DURING THE PERIOD OF REVIEW?**

Note: Include diagnosis of line sepsis or bacteremia related to the MIDLINE documented through the day after Midline removal or 30 days after Midline placement, whichever is first.
INCLUDE: Midline line infection
EXCLUDE: Bacteremia unrelated to the midline
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a diagnosis of line sepsis or bacteremia related to the Midline within the period of review. ***Answer question 2.1***
- *"No"* if the medical record does not indicate that the patient had a diagnosis of line sepsis or bacteremia related to the Midline within the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient had a diagnosis of line sepsis or bacteremia related to the Midline during the period of review.

2.1. DATE OF DIAGNOSIS OF LINE SEPSIS OR BACTEREMIA

Instructions: Review the medical record notes to determine the date of the line sepsis or bacteremia diagnosis during the period of review. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

3. **DID THE MEDICAL RECORD REFLECT AN INFECTION AT ANOTHER SITE (OTHER THAN BLOOD) THAT WAS CONFIRMED BY A POSITIVE CULTURE ANY TIME DURING THE PERIOD OF REVIEW (DAY OF MIDLINE PLACEMENT THROUGH DAY 30, DEATH, OR MIDLINE REMOVAL, WHICHEVER OCCURRED FIRST)?**

Instructions: Review the medical record to determine if an infection at another site (other than blood) that was confirmed by a positive culture any time during the period of review (Day of midline placement through Day 30, Death or midline Removal, which ever occurred first). This question looks to answer whether the

patient had any infection at a site other than a blood related infection. There are three (3) options for this question.

INCLUDE: Any documented infection that is at another site other than blood any time during the period of review (Day of midline placement through Day 30, Death, or midline removal, which ever occurred first). In order to be considered an infection at another site it must be confirmed via a positive culture (example: sputum culture, urine culture, etc.), positive smear (ex: sputum, etc.); positive tip culture from a non-midline device (example: Medport Tip, Permacath, etc.), positive midline tip culture that is not the midline of interest or results obtained through molecular testing or pathology report, positive h-plylori antigen detected. A physician diagnosis or other diagnostics (ex: chest x-ray) is not enough documentation to support an infection at another site.

EXCLUDE: Sepsis, septicemia, bacteremia, septic syndrome, blood stream infection (BSI), Positive WBC found in stool sample, lactoferrin positive in stool, candida in stool as it is almost always a commensal (not pathogen), positive antibodies (ex: EBV VCA Ab IgG and Hep A Total Ab, are a few examples), viral infections (e.g. positive for HSV-2 DNA Amplification), a positive sputum gram stain with no associated positive sputum culture, positive MRSA or VRE swab.

List of Infections (examples): (Must have a positive culture (i.e., sputum, urine, wound etc.) that confirms the infection)

Arterial or venous infection	Meningitis or vetriculitis
Breast abscess or mastitis	Myocarditis or pericarditis
Burn Infection	Necrotizing enterocolitis
Clostridium difficile infection	Oommphlalitis
Conjunctivitis	Oral Cavity Infection (e.g. thrush)
Decubitus ulcer infection	Osteomyelitis
Disc Space Infection	Other infection of the male or female reproductive tract
Ear, mastoid infection	Other infection of the lower respiratory tract
Endocarditis	Pneumonia
Endometritis	Prosthetic Joint Infection
Episiotomy Infection	Sinusitis

Eye infection, other than conjunctivitis	Skin infection
Gastroenteritis	Soft Tissue Infection
Gastrointestinal tract infection	Spinal abscess without meningitis
Hepatitis	Surgical Site Infection
Intraabdominal infection	Upper respiratory tract infection, pharyngitis, laryngitis, epiglottitis
Intracranial Infection	Urinary Tract Infection
Joint or Bursa Infection	Vaginal Cuff Infection
Mediastinitis	

If a culture (blood culture/Midline tip culture) is collected and you are awaiting results of the culture beyond the period of review and the Midline was removed, mark this question yes if other positive cultures were collected (sputum, etc.) the same day (or earlier) and are noted in the medical record during the time you are waiting for the culture results.
For example,

Culture Collected	**MIDLINE Removal**	**14 Day Review Date**	**Culture Results Available**
Blood Culture 4/18/17 Sputum Culture 4/18/17	4/18/17	4/19/17	Blood Culture Results Available: 4/21/17 Sputum Culture Results Available: 4/20/17 (Positive for Pneumonia)

Since the Midline was removed, enter the infection at another site because other positive cultures (results not available at the time of MIDLINE removal) indicating an infection was noted.			

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had an infection at another site (other than blood) that was confirmed by a positive culture during the period of review (day of midline placement through day 30, death or midline removal, which ever occurred first). ***Answer question 3.1 and 3.2***
  Note: There does not need to be documentation the positive culture was treated to answer "yes" to this question.
- *"No"* if the medical record does not indicate that the patient had an infection at another site (other than blood) during the period of review (day of midline placement through day 30, death or midline removal, which ever occurred first).
- *"Unknown"* if the medical record was silent as to whether the patient had an infection at another site (other than blood) during the period of review (day of midline placement through day 30, death or midline removal, which ever occurred first).

3.1. DATE OF THE INFECTION AT ANOTHER SITE (OTHER THAN BLOOD)

Instructions: Review the medical record to determine the date of collection of the positive culture indicating an infection at another site during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first). Indicate the date in the MM/DD/YYYY format.

Reminder: If there is notation of **more than one secondary infection** during the period of review, please enter in the date of the positive culture that is collected *closest* to the date of Midline placement.

3.2. FOR INFECTION AT ANOTHER SITE, PLEASE INDICATE THE TYPE OF INFECTION(S) THAT WAS PRESENT ANY TIME DURING THE PERIOD OF REVIEW (DAY OF MIDLINE PLACEMENT THROUGH DAY 30, DEATH OR MIDLINE REMOVAL, WHICHEVER OCCURRED FIRST)? (CHECK ALL THAT APPLY)

Instructions: Review the medical record to determine the type of infection(s) present during the period of review. Select the type of infection that is most

appropriate for the type of positive culture in the medical record. A specific diagnosis is not required to make a selection for this question.
Note: If there is more than one secondary infection during the period of review, please enter in all *types* of infections present during the period of review that are confirmed by a positive culture (not just the type of infection that corresponds to the culture collected on the date entered above).
There are ten (10) options for this question.

- "*Cellulitis*" if the medical record indicates that the individual has an infection from cellulitis during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Endocarditis*" if the medical record indicates that the individual has an infection from endocarditis present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Osteomyelitis*" if the medical record indicates that the individual has an infection from osteomyelitis present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Pancreatitis*" if the medical record indicates that the individual has an infection from pancreatitis present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Peritonitis*" if the medical record indicates that the individual has an infection from peritonitis present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Pneumonia*" if the medical record indicates that the individual has an infection from pneumonia present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Surgical Site Infection*" if the medical record indicates that the individual has an infection from a surgical site infection present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Urinary Tract Infection*" if the medical record indicates that the individual has an infection from a urinary tract infection present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).

- "*Other*" if the medical record indicates that the individual has an infection at other than that is listed above present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).
- "*Unknown*" if the medical record is silent as to the type of infection present during the period of review (Day of Midline placement through Day 30, Death, or Midline Removal, which ever occurred first).

4. **IS THERE DOCUMENTATION AT ANY TIME DURING THE PERIOD OF REVIEW OF THE MIDLINE THAT THE PATIENT HAD A FEVER > 38 DEGREES CELCIUS OR > 100.4 DEGREES FARENHEIT?**

Instructions: Review the medical record to determine if there is documentation that the patient had a fever greater than 38^{o}C or greater than 100.4^{o}F during the period of review.
INCLUDE: Any documented temperature that was greater than 38^{o}C (or greater than 100.4^{o}F) during the period of review
EXCLUDE: temperature equal to or below 38^{o}C or 100.4^{o}F.
Select one of the following:

- "Yes" if the medical record indicates that the patient had a fever > 38^{o}C or > 100.4^{o}F during the period of review. ***Answer question 4.1***
- "No" if the medical record does not indicate that the patient had a fever > 38^{o}C or > 100.4^{o}F during the period of review.
- "Unknown" if the medical record was silent as to the patient's temperature during the period of review.

4.1. DATE OF FIRST FEVER DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the first date the patient had a documented fever (i.e., greater than 38^{o}C or greater than 100.4^{o}F) during the period of review. Indicate the date in the MM/DD/YYYY format.

5. **IS THERE DOCUMENATION AT ANY TIME DURING THE PERIOD OF REVIEW THAT THE PATIENT HAD HYPOTHERMIA WITH A BODY TEMPERATURE < 36.5 DEGREES CELCIUS?**

Instructions: Review the medical record to determine if there is documentation that the patient had hypothermia with a body temperature < 36.5^{o}C (or < 97.7 ^{o}F) during the period of review. If there is documentation that the patient was hypothermic, review the progress note to determine if the temperature was less than 36.5^{o}C (or 97.7 ^{o}F).

INCLUDE: Any documented temperature that was less than 36.5^{O}C during the period of review.
EXCLUDE: Any temperature equal to or above 36.5^{O}C or 97.7 ^{O}F.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had hypothermia < 36.5^{O}C or 97.7 degrees Fahrenheit during the period of review. ***Answer question 5.1***
- *"No"* if the medical record does not indicate that the patient had hypothermia <36.5^{O}C or <97.7 degrees Fahrenheit during the period of review.
- *"Unknown"* if the medical record was silent as to the patient's temperature during the period of review.

5.1. DATE OF FIRST EPISODE OF HYPOTHERMIA DURING THE PERIOD OF REVIEW

Instructions: Review the medical record to determine the first date the patient had documented hypothermia (i.e. less than 36.5^{O}C or 97.7 ^{O}F) during the period of review. Indicate the date in the MM/DD/YYYY format.

6. **DID THE PATIENT HAVE BLOOD CULTURE(S) COLLECTED IN THE 14 DAYS PRIOR TO MIDLINE PLACEMENT THROUGH DAY 30, DEATH, OR 2 DAYS AFTER MIDLINE REMOVAL (WHICEVER COMES FIRST)?**

Instructions: Review the medical record to determine if the patient had any positive *or* negative blood culture(s) collected during the period of review (go by the date of blood culture collection, not culture completion date). The period of review is defined as 14 days prior to Midline placement through day 30, death, or two days after Midline removal (whichever occurred first)
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had blood cultures collected during the period of review. ***Answer question 6.1 and 6.2***
- *"No"* if the medical record does not indicate that the patient had blood cultures collected during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient had blood cultures collected during the period of review.

6.1. DID THE PATIENT HAVE A POSITIVE BLOOD CULTURE COLLECTED DURING THE PERIOD OF REVIEW (14 DAYS PRIOR TO MIDLINE PLACEMENT THROUGH DAY 30, DEATH, OR TWO DAYS AFTER MIDLINE REMOVAL, WHICHEVER OCCURRED FIRST)?

Instructions: Review the medical record to determine if the patient had positive blood cultures collected during the period of review (14 days prior to midline placement through day 30, death, or two days after midline removal, whichever occurred first). The blood is cultured in the lab to see if there are any pathogens, and if a pathogen is identified it is considered positive and may be sent for culture and susceptibility testing (C&S). Then, further tests are done to identify the specific type of pathogen, which helps to determine the best course of treatment.
INCLUDE: Documentation of one or more positive blood cultures with a recognized pathogen (i.e., microorganism).
EXCLUDE: Cultures that yield no growth, or no growth to date.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had positive blood cultures collected during the period of review. Complete Blood Cultures form for each positive culture drawn during the period of review.
- *"No"* if the medical record does not indicate that the patient had positive blood cultures collected during the period of review.
- *"Unknown"* if the medical record was silent as to whether the patient had positive blood cultures collected during the period of review.

6.2. HOW MANY NEGATIVE BLOOD CULTURES WERE COLLECTED IN THE 14 DAYS PRIOR TO MIDLINE PLACEMENT THROUGH DAY 30, DEATH, OR 2 DAYS AFTER MIDLINE REMOVAL (WHICHEVER COMES FIRST)?
Instructions: Review the medical record to determine how many negative blood culture(s) were collected during the period of review (go by the date of blood culture collection, not culture completion date). The period of review is defined as 14 days prior to Midline placement through day 30, death, or two days after Midline removal (whichever occurred first) Use free text to indicate the number of negative blood cultures collected during the period of review.

7. **DID THE PATIENT HAVE A MIDLINE TIP SENT FOR CULTURE?**

Instructions: This question will only appear if you indicated that the Midline has been removed. Review the medical record to determine if the patient had a Midline tip (i.e., of the Midline being abstracted) sent for microbiological culture during the period of review. This information is likely to be found in the physician progress notes, vascular nursing notes, and/or laboratory (i.e., microbiology) information.
Note: This question only appears if the Midline was noted to have been removed in the period of review in the Patient Status section of the 30-Day Follow Up form.

INCLUDE: Documentation and/or order for the Midline tip to be sent for culture. Laboratory results of the Midline tip (i.e., of the Midline being abstracted) culture.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had their Midline tip sent for culture. ***Answer question 7.1***
- *"No"* if the medical record does not indicate that the patient had their Midline tip sent for microbiological culture.
- *"Unknown"* if the medical record was silent as to whether the patient had their Midline tip cultured.

7.1. WAS THE MIDLINE TIP CULTURE RESULT POSITIVE?

Instructions: Review the medical record to determine if the Midline tip culture was positive (i.e., the culture was positive for pathogen growth) during the period of review.

INCLUDE: Laboratory result that indicates that the Midline tip was positive for a pathogen.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a positive Midline tip culture result. *Answer questions* ***7.1.1 through 7.1.3***
- *"No"* if the medical record does not indicate that the patient had a positive Midline tip culture result.
- *"Unknown"* if the medical record was silent as to whether the patient had a positive Midline tip culture result.

7.1.1. POSITIVE MIDLINE TIP CULTURE-DATE OF CULTURE

Instructions: Review the medical record to determine the date of the first positive Midline tip culture (i.e., date the culture was drawn). Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

7.1.2. POSITIVE MIDLINE TIP CULTURE-PATHOGEN IDENTIFIED

Instructions: Review the medical record to determine the pathogen identified on the Midline tip culture. Pathogens are classified by genus and species. The genus and species of the pathogen will likely be found on the laboratory report. Indicate the genus, which is the broad or the generic name. Once genus is selected, you will be prompted to indicate the species.

Select one of the following:

- "*Achromobacter"*
- *"Acinetobacter"*

- *"Actinomyces"*
- *"Aerobacter"*
- *"Aerococcus"*
- *"Aeromonas"*
- *"Alcaligenes"*
- *"Alpha-hemolytic Streptococcus, not S. pneumoniae"*
- *"Arachnia"*
- *"Arcanobacterium"*
- *"Arthrobacter"*
- *"Aspergillus"*
- *"Bacillus"*
- *"Bacterionema"*
- *"Bacteroides"*
- *"Bordetella"*
- *"Branhamella"*
- *"Brevibacillus"*
- *"Brevibacterium"*
- *"Burkholderia"*
- *"Candida"* INCLUDE: Yeast and Torulopsis Glabrata
- *"Citrobacter"*
- *"Clostridium"*
- *"Corynebacterium"*
- *"Coryneform"*
- *"Cupriavidus*
- *"Dermabacter"*
- *"Dermacoccus"*
- *"Diptherioids"*
- *"Elizabethkingia"*
- *"Enterobacter"*
- *"Enterococcus"*
- *"Escherichia"*
- *"Francisella"*
- *"Friedlander's"*
- *"Fusobacterium"*
- *"Gordonia"*
- *"Granulicatella"*
- *"Haemophilus"*
- *"Histoplasma"*

- *“Klebsiella”*
- *“Kluyvera”*
- *“Kocuria”*
- *“Legionella”*
- *“Levinea”*
- *“Listeria”*
- *“Microbacterium”*
- *“Micrococcus”*
- *“Monilia”*
- *“Moraxella”*
- *“Morganella”*
- *“Neisseria”*
- *“Nocardia”*
- *“Oidium”*
- *“Paeni”*
- *“Pantoea”*
- *“Pasteurella”*
- *“Pediococcus”*
- *“Peptostreptococcus”*
- *“Pneumocystitis”*
- *“Prevotella”*
- *“Propionibacterium”*
- *“Propioniferax”*
- *“Providencia”*
- *“Proteus”*
- *“Pseudomonas”*
- *“Raoultella”*
- *“Rhodococcus”*
- *“Rothia”*
- *“Rummeliibacillus”*
- *“Salmonella”*
- *“Sarcina”*
- *“Scedosporium”*
- *“Serratia”*
- *“Solibacillus”*
- *“Stapyhlococcus ”*
- *“Stenotrophomonas*
- *“Streptococcus”*

- *"Streptococcus species"*
- *"Trueparella"*
- *"Tsukamurella"*
- *"Tufted Mitior"*
- *"Turicella"*
- *"Viridans Group Streptococci"*
- *"Yersina"*
- *"Bacteria Not Specified"*
- *"Other (See the CDC's complete list in the knowledge base)"*

  FOR OTHER, PLEASE SPECIFY

  Instructions: Do not use the selection "Other" until you have contacted the coordinating center for guidance. Use free text to indicate "other".

  INCLUDE: Streptococcus Intermedius, Gemella Morbillorum

7.1.3. FOR THE POSITIVE MIDLINE TIP CULTURE, WAS THERE AN ADDITIONAL PATHOGEN IDENTIFIED?

Instructions: Review the medical record to determine if an additional pathogen was identified on the positive midline tip culture.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a second pathogen identified within the Midline tip culture. ***Answer question 7.1.3.1***
- *"No"* if the medical record does not indicate that the patient had a second pathogen identified within the Midline tip culture.
- *"Unknown"* if the medical record is silent as to whether the patient had a second pathogen identified within the Midline tip culture.

7.1.3.1 POSITIVE MIDLINE TIP CULTURE-PATHOGEN (#2) IDENTIFIED

Instructions: Review the medical record to determine if the patient had a second pathogen identified within the Midline tip culture. Repeat the steps outlined above for up to five pathogens.

Minor Complications

1. **DID THE PATIENT HAVE EVIDENCE OF TIP MIGRATION?**

Instructions: Review the medical record to determine if the patient had evidence of Midline tip migration (i.e., movement of the Midline tip) during the period of review OR up to the point of Midline removal (i.e., if Midline removed during the period of review). The migration or movement of Midlines within the body may occur spontaneously or as the result of patient movement.

INCLUDE: Documentation of Midline tip migration, documentation that more catheter length was visible outside the insertion site, X-ray results that indicate Midline tip migration.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had evidence of Midline tip migration. ***Answer question 1.1***
- *"No"* if the medical record does not indicate that the patient had evidence of Midline tip migration.
- *"Unknown"* if the medical record was silent as to whether the patient had evidence of Midline tip migration.

1.1. DATE

Instructions: Review the medical record to determine the date that Midline tip migration was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

2. **DID THE PATIENT HAVE SUPERFICIAL THROMBOPHLEBITIS AROUND THE MIDLINE?**

Instructions: Review the medical record to determine if the patient had documentation detailing tender, swollen veins, swelling or inflammation along a vein where the catheter resides OR if there is documentation of "phlebitis", "superficial phlebitis", "superficial thrombophlebitis" or "superficial thrombosis" through the day after Midline removal or 30 days after Midline placement, whichever is first. This should exclude swelling or redness ONLY at the exit site which should be recorded as exit site infection.

INCLUDE: Healthcare professional (physician, vascular access nurse, infectious disease, home care, etc.) documentation of thrombophlebitis, superficial thrombophlebitis, or superficial thrombosis in the same extremity as the Midline, Ultrasound or venography report of superficial thrombophlebitis around the Midline, documentation of Midline removal due to superficial thrombophlebitis. Include clots in the cephalic vein, median cephalic vein, basilic vein, median cubital vein, median

forearm vein, greater saphenous vein, lesser saphenous vein as superficial thrombophlebitis.
EXCLUDE: deep vein thrombosis (i.e., thrombus/Clot in the following deep veins: subclavian, axillary, brachial, radial, ulnar, common iliac, internal iliac, external iliac, common femoral, deep femoral, femoral, popliteal, gastrocnemius, anterior tibial, soleus, peroneal, tibioperoneal, posterior tibial)cellulitis, edema without further documentation, swelling or redness ONLY at the exit site, as this should be recorded as exit site infection.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had superficial thrombophlebitis around the Midline. ***Answer question 2.1***
- *"No"* if the medical record does not indicate that the patient had superficial thrombophlebitis around the Midline.
- *"Unknown"* if the medical record was silent as to whether the patient had superficial thrombophlebitis around the Midline.

2.1. DATE

Instructions: Review the medical record to determine the date that the superficial thrombophlebitis around the Midline entry site was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

3. **DID THE PATIENT HAVE EVIDENCE OF LEAKAGE DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient had evidence of leakage from the Midline insertion site during the period of review OR until the point of Midline removal (i.e., if Midline removed during the period of review).
Select one of the following:

- *"Yes"* if the medical record indicates the patient had evidence of leakage from the Midline insertion site. ***Answer question 3.1***
- *"No"* if the medical record does not the indicate the patient had evidence of leakage from the Midline insertion site
- *"Unknown"* if the medical record was silent as to whether the patient had evidence of leakage from the Midline insertion site

3.1. DATE

Instructions: Review the medical record to determine the date the evidence of leakage from the Midline insertion site was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

4. **DID THE PATIENT HAVE EVIDENCE OF INFILTRATION DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient had evidence of infiltration into the surrounding tissue around the Midline insertion site during the period of review OR until the point of Midline removal (i.e., if Midline removed during the period of review).

Select one of the following:

- *"Yes"* if the medical record indicates the patient had evidence of infiltration into the surrounding tissue around the Midline insertion site. ***Answer question 4.1***
- *"No"* if the medical record does not indicate the patient had evidence of infiltration into the surrounding tissue around the Midline insertion site.
- *"Unknown"* if the medical record was silent as to whether the patient had evidence of infiltration into the surrounding tissue around the Midline insertion site.

4.1. DATE

Instructions: Review the medical record to determine the date the evidence of infiltration around the Midline insertion site was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

5. **DID THE PATIENT DEVELOP AN EXIT SITE INFECTION?**

Instructions: Review the medical record to determine if the patient developed a Midline exit site infection through the day after Midline removal or 30 days after Midline placement, whichever is first. Include if the medical record indicates redness, purulent discharge or granulation tissue documented at the site of the catheter exit which may also be associated with pain or tenderness; OR if there is documentation of "exit site infection" or "site infection". Also include if there are cultures of discharge at the exit site or documentation of redness and swelling at the exit site of the Midline.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient developed a Midline exit site infection. ***Answer question 5.1***
- *"No"* if the medical record does not indicate that the patient developed a Midline exit site infection.
- *"Unknown"* if the medical record was silent as to whether the patient developed a Midline exit site infection.

5.1. DATE

Instructions: Review the medical record to determine the date the exit site infection was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

6. **DID THE PATIENT EXPERIENCE CATHETER OCCLUSION WITHIN THE LUMEN OF THE MIDLINE?**

Instructions: Review the medical record to determine if the patient experienced catheter occlusion within one or more lumens of the Midline. Thrombotic occlusion within the lumen(s) of the Midline is one example of a lumen occlusion. Another example is non thrombotic occlusion that can occur when medications and other infusates precipitate within the lumen of the catheter.

Note: If there is documentation of inability to flush the catheter and subsequent documentation that an individual either changed the cap or performed a more vigorous flushing technique which solved the "inability to flush" you should not mark this as an occlusion. The caveat here is that there must be documentation in the medical record that the CAP change or more vigorous flushing technique solved the "inability to flush".

INCLUDE: Fibrin clot formation inside the lumen of the Midline (intraluminal), any documentation of a thrombosis within the lumen of the Midline or catheter occlusion from any source. Documentation may include the words occlusion, occluded, or blocked, as a few examples, or inability to flush the catheter.

EXCLUDE: Deep vein thrombosis (DVT), superficial thrombophlebitis, draws and flushes hard, flushes with resistance; infusion not flowing; the only documentation is inability to get a blood return; If there is documentation of inability to flush the catheter and subsequent documentation that an individual either changed the cap or performed a more vigorous flushing technique which solved the "inability to flush" you should not mark this as an occlusion. The caveat here is that there must be documentation in the medical record that the CAP change or more vigorous flushing technique solved the "inability to flush".

Select one of the following:

- *"Yes"* if the medical record indicates that the patient experienced catheter occlusion within the lumen of the Midline. ***Answer question 6.1***
- *"No"* if the medical record does not indicate that the patient experienced catheter occlusion within the lumen of the Midline.
- *"Unknown"* if the medical record was silent as to whether the patient experienced catheter occlusion within the lumen of the Midline.

6.1. DATE

Instructions: Review the medical record to determine the date the catheter occlusion within the lumen of the Midline was first identified. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

7. WAS A DECLOTTING PROCEDURE OF THE LINE PERFORMED?

Instructions: Review the medical record to determine if a declotting procedure of the Midline line was performed during the period of review OR until the point of Midline removal (i.e., if Midline removed during the period of review). Declotting procedures are usually performed for either partial or complete occlusion of the Midline.
INCLUDE: Direct instillation declotting method, 3-way stopcock declotting method, declotting by thrombolytic agent (such as tPA, urokinase, streptokinase, etc.) of Midline catheter, gentle push of declotting agent or clearing agent.
EXCLUDE: Saline flushes
Select one of the following:

- *"Yes"* if the medical record indicates that a declotting procedure of the Midline was performed. ***Answer question 7.1 through 7.3***
- *"No"* if the medical record does not indicate that a declotting procedure of the Midline was performed.
- *"Unknown"* if the medical record was silent as to whether a declotting procedure of the Midline was performed.

7.1. DATE OF FIRST DECLOTTING PROCEDURE

Instructions: Review the medical record to determine the date that the first declotting procedure was performed. Indicate the date in the mm/dd/yyyy format. Use 01/01/1900 if the date is unknown.

7.2. CUMULATIVE NUMBER OF DECLOTTING PROCEDURES

Instructions: Review the medical record to determine the cumulative number of declotting procedures that were performed during the period of review OR until the point of Midline removal (i.e., if Midline removed during the period of review).
Note: If a declotting procedure (ex: alteplase) is performed at one time but is inserted in multiple different lumens, this should count as one procedure.
Select one of the following:

- *"1"* if the medical record indicates that one (1) declotting procedure was performed.
- *"2"* if the medical record indicates that two (2) declotting procedures were performed.

- *"3"* if the medical record indicates that three (3) declotting procedures were performed.
- *"4"* if the medical record indicates that four (4) declotting procedures were performed.
- *"5+"* if the medical record indicates that five or more (5+) declotting procedures were performed.
- *"Unknown"* if the medical record is silent as to the number of declotting procedures performed.

7.3. INDICATE ALL DECLOTTING AGENTS USED

Instructions: Review the medical record to determine the declotting agents used during the declotting procedures (i.e., the line clearing agent used).
Select all that apply:

- *"Alteplase (t-PA)"* if the medical record indicates that aletplase (t-PA) was a declotting agent used.
  INCLUDE: Alteplase (t-PA), Activase, tissue plasminogen activator (tPA or PLAT)
- *"Anistreplase"* if the medical record indicates that anistreplase was a declotting agent used.
  INCLUDE: Anistreplase, Eminase
- *"Urokinase"* if the medical record indicates that urokinase was a declotting agent used.
  INCLUDE: Urokinase, Abbokinase, urokinase-type plasminogen activator (uPA)
- *"Streptokinase"* if the medical record indicates that streptokinase was a declotting agent used.
  INCLUDE: Streptokinase (SK), Streptase
- *"Reteplase"* if the medical record indicates that reteplase was a declotting agent used.
  INCLUDE: Reteplase, Retavase, Rapilysin
- *"Tenecteplase"* if the medical record indicates that tenecteplase was a declotting agent used.
  INCLUDE: Tenecteplase (TNK), TNKase
- *"Recombinant Urokinase"* if the medical record indicates that recombinant urokinase was a declotting agent used.
  INCLUDE: Recombinant urokinase
- *"Alfimeprase"* if the medical record indicates that alfimeprase was a declotting agent used.

INCLUDE: Alfimeprase

- *"Other"* if the medical record indicates that a declotting agent not identified above was used.
- *"Unknown"* if the medical record was silent as to the declotting agent(s) that were used.

8. **WERE ANY CONSULTATIONS/REFERRALS MADE TO ANY OF THE FOLLOWING DURING THE PERIOD OF REVIEW**

Instructions: Review the medical record to determine if the patient had any of the following consults or referrals ordered for additional services (i.e., a discipline other than the admitting medical physician) during the period of review. Patients often have referrals while in the hospital for special services such as infectious disease if the patient is being treated for an infection or are referred to their primary care physician for follow-up (f/u) if the patient is being discharged.

Note: If an individual is discharged during the period of review with a referral order to an additional service, this can be included.

Select all that apply:

- *"Home Care"* if the medical record indicates that the patient had a consult/referral made for home care.
  INCLUDE: Any consult/referral for the patient to receive home care, home care nursing, supportive home care, home healthcare, home health aide, etc.

  DATE
  Instructions: Review the medical record to determine the date the home care consult was ordered, or the date of the home care note during the period of review or within 5 days prior to the Midline placement. If there is more than one consult or note, enter the date of the note that is closest and prior to the date of Midline placement. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

- *"Infectious Disease"* if the medical record indicates that the patient had a consult/referral for infectious disease. ***Answer question 8.1***
  INCLUDE: Inpatient or outpatient referral/consult for Infectious Disease (ID) or an Infectious Disease Specialist. If an infectious disease consult was ordered or there is an infectious disease note in the medical record within the 5 days prior to

Midline placement, please select “Infectious Disease” even though it is prior to the period of review.

DATE
Instructions: Review the medical record to determine the date the infectious disease consult was ordered, or the date of the infectious disease note during the period of review or within the 5 days prior to Midline placement. If there is more than one consult or note, enter the date that is closest and prior to the date of Midline placement. Indicate the date in the MM/DD/YYYY format.

- “*Nephrology*” if the medical record indicates that the patient had a consult/referral for a nephrologist. ***Answer question 8.2***
  INCLUDE: Inpatient or outpatient referral/consult for Nephrologist. If a nephrology consult was ordered, there is a nephrology note or there is a vascular access nurse, mid-level provider, non-nephrology physician note stating “Nephrology provided approval, feedback, consulted, (etc.) regarding insertion of Midline” in the medical record within the 5 days prior to Midline placement please select “Nephrology” even though it is prior to the period of review.
  EXCLUDE: Documentation of Nephrologist’s approval of Midline placement by Care Management

  DATE
  Instructions: Review the medical record to determine the date the nephrology consult was ordered, or the date of the nephrology note during the period of review or within 5 days prior to the Midline placement. If there is more than one consult or note, enter the date of the note that is closest and prior to the date of Midline placement. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

- *“Oncologist”* if the medical record indicates that the patient had a consult/referral for an oncologist. ***Answer question 8.3***
  INCLUDE: Inpatient or outpatient referral/consult for hematology and/or oncology services. If an oncologist consult was ordered or there is an oncologist note in the medical record within the 5 days prior to Midline placement, please select “Oncologist” even though it is prior to the period of review.
  EXCLUDE: Radiation oncology.

  DATE

Instructions: Review the medical record to determine the date the oncologist consult was ordered or the date of the oncologist note during the period of review or within 5 days prior to the Midline placement. If there is more than one consult or note, enter the date of the note that is closest and prior to the date of Midline placement. Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

- *"No F/U or referral made"* if the medical record was silent as to whether the patient had a consult/referral.
  "Unknown" if the medical record is silent as to whether a consult/referral was made during the period of review.

8.1. WAS THE INFECTIOUS DISEASE CONSULT OBTAINED BEFORE THE MIDLINE WENT IN?

Instructions: Review the medical record to determine if the patient had an infectious disease consult obtained before/prior to the Midline insertion.
Select one of the following:

- *"Yes"* if the medical record indicates that the infectious disease consult was obtained before the Midline was inserted. ***Answer question 8.1.1***
- *"No"* if the medical record does not indicate that the infectious disease consult was obtained before the Midline was inserted.
- *"Unknown"* if the medical record was silent as to whether the infectious disease consult was obtained before the Midline was inserted.

8.1.1. DID INFECTIOUS DISEASE APPROVE OR RECOMMEND PLACEMENT OF THE MIDLINE?

Instructions: Review the medical record to determine if infectious disease approved or recommended the placement of the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates that infectious disease recommended the placement of the Midline.
- *"No"* if the medical record does not indicate that infectious disease recommended the placement of the Midline.
- *"Unknown"* if the medical record was silent as to whether infectious disease recommended the placement of the Midline.

8.2. WAS THE NEPHROLOGY CONSULT OBTAINED BEFORE THE MIDLINE WENT IN?

Instructions: Review the medical record to determine if the patient had a nephrology consult obtained before/prior to the Midline insertion.
Select one of the following:

- *"Yes"* if the medical record indicates that the nephrology consult was obtained before the Midline was inserted. ***Answer question 8.2.1***
- *"No"* if the medical record does not indicate that the nephrology consult was obtained before the Midline was inserted.
- *"Unknown"* if the medical record was silent as to whether the nephrology consult was obtained before the Midline was inserted.

8.2.1. DID NEPHROLOGY APPROVE OR RECOMMEND PLACEMENT OF THE MIDLINE?

Instructions: Review the medical record to determine if nephrology approved or recommended the placement of the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates that nephrology recommended the placement of the Midline.
  EXCLUDE: Documentation of Nephrologist's approval of Midline placement by Care Management
- *"No"* if the medical record does not indicate that nephrology recommended the placement of the Midline.
- *"Unknown"* if the medical record was silent as to whether nephrology recommended the placement of the Midline.

8.3. WAS THE ONCOLOGIST CONSULT OBTAINED BEFORE THE MIDLINE WENT IN?

Instructions: Review the medical record to determine if the patient had an oncologist consult obtained before/prior to the Midline insertion.
Select one of the following:

- *"Yes"* if the medical record indicates that the oncologist consult was obtained before the Midline was inserted. ***Answer question 8.3.1***
- *"No"* if the medical record does not indicate that the oncologist consult was obtained before the Midline was inserted.
- *"Unknown"* if the medical record was silent as to whether the oncologist consult was obtained before the Midline was inserted.

8.3.1. DID THE ONCOLOGIST APPROVE OR RECOMMEND PLACEMENT OF THE MIDLINE?

Instructions: Review the medical record to determine if the oncologist approved or recommended the placement of the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates that the oncologist recommended the placement of the Midline.
- *"No"* if the medical record does not indicate that the oncologist recommended the placement of the Midline.
- *"Unknown"* if the medical record was silent as to whether the oncologist recommended the placement of the Midline.

9. **DOES YOUR HOSPITAL/INSTITUTION HAVE A NEPHROLOGY-APPROVED POLICY IN PLACE WHICH SPECIFIES PARTICULAR CONDITIONS IN WHICH NEPHROLOGY DOES NOT NEED TO BE CONSULTED FOR A MIDLINE PLACEMENT?**

Instructions: Review your hospitals policies for a nephrology-approved policy that specifies particular conditions in which nephrology does not need to be consulted for a Midline placement.
Select one of the following:

- "*Yes"* if your hospital/institution has a nephrology-approved policy in place which specifies particular conditions in which nephrology does not need to be consulted prior to Midline placement. ***Answer question 9.1***
  Reminder: The HMS Coordinating Center will query sites that answer **"Yes"** to this question to provide their hospital policy and/or required supporting documentation.
- "*No"* if your hospital/institution <u>does not</u> have a nephrology-approved policy in place which specifies particular conditions in which nephrology does not need to be consulted prior to Midline placement
  <u>INCLUDE: Hospital policy that requires Nephrology consult prior to Midline placement for an eGFR < 45 ml/min.</u>
- "*Unknown"* if it is unknown if your hospital hospital/institution has a nephrology-approved policy in place which specifies particular conditions in which nephrology does not need to be consulted prior to Midline placement

9.1. IF YES, WHICH POLICY?

Instructions: Review your hospital's policies to determine which type of policy is in place at your institution.
Select one of the following:

- "*Nephrology consults required for Midline placement only if the patient's eGFR is ≤ 30 ml/min"* if your hospital/institution has a policy in place where nephrology does not need to be consulted for a Midline placement unless the eGFR ≤ 30 ml/min.
- "*Nephrology/Interventional Radiology Collaboration to determine need for Nephrology Consult prior to Midline placement*" if your hospital/institution have a policy in place where interventional radiology collaborates with nephrology to determine need for nephrology consult for a Midline placement for eGFR ≤45 ml/min. ***Answer question 9.1.1***

9.1.1. DOES THE DOCUMENTATION FOR THIS CASE STATE THIS POLICY/PROCESS WAS FOLLOWED?

Instructions: Review the medical record to determine if the policy/process was followed for this patient.

Select one of the following:

- *"Yes"* if the medical record indicates that the process outlined in your hospital/institution's policy was followed
- *"No"* if the medical record does not indicate that the process outlined in your hospital/institution's policy was followed
- "*Unknown"* if the medical record is silent as to whether the process outlined in your hospital/institution's policy was followed.

Discharge

1. **WAS THE PATIENT DISCHARGED FROM THE INPATIENT HOSPITALIZATION WHEN THE MIDLINE OF INTEREST WAS PLACED DURING THE PERIOD OF REVIEW?**

Instructions: Review the medical record to determine if the patient was discharged from the inpatient hospitalization when the Midline of interest was placed during the period of review.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient was discharged from the inpatient hospitalization when the Midline of interest was placed during this period of review. *Reminder:* Select "Yes" if during this period of review, the patient

was discharged from the inpatient hospitalization when the Midline of Interest was placed AND the MIDLINE of interest was still in place at the time of this discharge. ***Answer questions 1.1 through 1.4***

- *"No"* if the medical record does not indicate that the patient was discharged from the inpatient hospitalization when the MIDLINE of interest was placed during this period of review.

1.1. DISCHARGE LOCATION

Instructions: Review the medical record to determine the discharge location (i.e., where the patient was sent after discharge from the hospital).

Select one of the following:

- *"Transferred to another hospital"* if the medical record indicates that the patient was transferred to another hospital. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Any transfer to another hospital/health care facility. Also, include long term acute care hospitals (LTACH).
- *"Death (Complete Death Form)"* if the medical record indicates the patient is deceased. ***Answer question 1.1.3***
  <u>Note</u>: If this is selected, you should have a corresponding entry in the Death Form and the follow up phone call section will not populate.
  INCLUDE: Patient expired, patient deceased, termination of life
- *"Discharged home"* if the medical record indicates that the patient was discharged home. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Discharge to patient's own home, friend's home, or a family member's home with or without home care services. Patients that have left the hospital against medical advice (AMA). Patients that return to an adult foster care center, which is the patient's usual state of residence.
- *"Discharged to assisted living"* if the medical record indicates that the patient was discharged to an assisted living facility. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Assisted living, assisted living facilities (ALF), assisted living residence
- *"Discharged to skilled nursing facility"* if the medical record indicates that the patient was discharged to a skilled nursing facility. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF)
- *"Discharged to sub-acute rehab facility"* if the medical record indicates that the patient was discharged to a sub-acute rehabilitation facility. ***Answer questions 1.1.1 and 1.1.2***

INCLUDE: Sub-acute rehabilitation (rehab), sub-acute rehabilitation care, post-acute rehabilitation center

- *"Discharged to inpatient hospice"* if the medical record indicates that the patient was discharged to inpatient hospice. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Inpatient hospice care, hospice inpatient facility
  Note: If this selection is made, the follow up phone call section will not appear.
- *"Discharged to home hospice"* if the medical record indicates that the patient was discharged to home hospice. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Discharged home for palliative care, hospice care, comfort measures only, or comfort care.
  Note: If this selection is made, the follow up phone call section will not appear.
- *"Discharged to correctional facility"* if the medical record indicates that the patient was discharged to a correctional facility. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Correctional facility, jail, prison, penitentiary
- *"Discharged to inpatient rehab"* if the medical record indicates that the patient was discharged to inpatient rehabilitation. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Acute rehabilitation center, acute rehabilitation services, acute rehab, inpatient rehabilitation facility (IRF), inpatient rehab
  Note: An example discharge to inpatient rehab within the same institution might look like this: "A patient is admitted for medical care to XYZ hospital. After two weeks of acute care, the hospitalist recommends, and the insurance company approves, care in an acute rehabilitation facility. XYZ hospital has an acute rehabilitation unit that is just down the hall. The patient is discharged from XYZ hospital and admitted to XYZ rehabilitation."
- *"Discharged to inpatient psychiatric facility"* if the medical record indicates that the patient was discharged to an inpatient psychiatric facility. ***Answer questions 1.1.1 and 1.1.2***
  INCLUDE: Inpatient psychiatric, inpatient psychiatry, inpatient mental health care.
  Note: An example discharge to inpatient psychiatric unit within the same institution might look like this: "A patient is admitted for medical care to XYZ hospital. After two weeks of acute care, the hospitalist recommends, and the insurance company approves, care in an inpatient psychiatric facility. XYZ hospital has an inpatient psychiatric unit that is just down the hall. The patient is medically cleared and discharged from XYZ hospital and admitted to XYZ psychiatric unit."

- *"Other"* if the medical record indicates that the patient was discharged to a location other than what is stated above.

  FOR OTHER, PLEASE SPECIFY.

  Instructions: Utilize the free text box provided to type in the other discharge location for the patient.
- *"Unknown"* if the medical record is silent as to the discharge location of the patient.

1.1.1. DATE OF DISCHARGE

Instructions: Review the medical record to determine the date of discharge. Record the date of discharge in the MM/DD/YYYY format. Use 01/01/1900 if the date of discharge is unknown.

1.1.2. WHAT WERE THE ICD 10 CODES ASSOCIATED WITH THE DISCHARGE DIAGNOSES LISTED IN THE DISCHARGE SUMMARY?

Instructions: Review the medical record to determine *ALL* of the ICD-10 codes that are associated with the discharge diagnoses listed in the discharge summary. Use the free text box to enter in all of the ICD-10 codes that are listed in the discharge summary for this hospital encounter. Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and last ICD-10 code is followed by a semicolon (;).

1.1.3. WHAT WERE THE ICD 10 CODES ASSOCIATED WITH THE FINAL/DISCHARGE DIAGNOSES LISTED AT THE TIME OF THE PATIENT'S DEATH?

Instructions: Review the medical record to determine *ALL* of the ICD-10 codes that are associated with the final/discharge diagnoses listed at the time of the patient's death. Use the free text box to enter in all of the ICD-10 codes that are listed. Please make sure all individual ICD-10 codes are separated by a comma, are capitalized, and last ICD-10 code is followed by a semicolon (;).
Note: No other questions will appear in this section if "Death" is selected as the Discharge Location.

1.2. DURING THE PERIOD OF REVIEW, IS THERE DOCUMENTATION THAT THE PATIENT HAD ONE OF THE FOLLOWING MEDICAL SERVICES (I.E. EMERGENCY ROOM OR OVERNIGHT STAY GREATER THAN (>) 24 HOURS), EXCLUDING THE INDEX HOSPITALIZATION?

Instructions: Review the medical record to determine if there is documentation that the patient had an emergency room encounter, or an overnight stay in a medical care facility that lasted greater than (>) 24 hours.
Note 1: Only include medical services that the patient received post discharge from the index hospitalization.
Note 2: If the patient is discharged from the inpatient hospitalization when the MIDLINE of interest was placed during the period of review to a skilled nursing facility, sub-acute rehab facility, inpatient psychiatric facility, inpatient hospice, LTACH or other nursing facility with their Midline still in place be sure to select YES to "An Overnight Stay in a Medical Care Facility >24hr".
Note 3: If the patient has multiple medical services after the discharge from the inpatient hospitalization when the Midline of interest was placed, please enter the first two events (ER, inpatient, etc.) that is closest to the discharge date that occurred during the period of review.
Select one of the following:

- *"Emergency Room Encounter"* if the medical record indicates that the patient had an emergency room encounter during the period of review. ***Answer questions 1.2.1, 1.2.2, and 1.2.6***
  INCLUDE: Any patient visit to an Emergency room (ER), emergency department (ED), Urgent care center directly associated with your hospital and enter both an emergency room encounter and an overnight stay in a medical care facility >24 hours if the patient was admitted to the hospital as an outcome from the ED/ER encounter.
- *"An Overnight Stay in a Medical Care Facility > 24 hours"* if the medical record indicates that the patient had an overnight stay in a medical care facility that was greater than (>) 24 hours during the period of review. Enter both an emergency room encounter and an overnight stay in a medical care facility >24 hours if the patient was admitted to the hospital as an outcome from the ED/ER encounter. ***Answer questions 1.2.3 through 1.2.6***
  INCLUDE: Any overnight stay in a medical care facility that last greater than 24 hours in length. If the patient is discharged to another hospital and the patient had an admission at that hospital that was greater than 24 hours.
- *"None of the above"* if there is no documentation that the patient had one of the medical services indicated above during the period of review.
- *"Unknown"* if the medical record is silent as to whether the patient had one of the medical services indicated above during the period of review.

1.2.1. DATE OF EMERGENCY ROOM ENCOUNTER

Instructions: Review the medical record to determine the date of the emergency room encounter. Record the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.2.2. CAN YOU SEE A DISCHARGE DIAGNOSIS ICD-10 CODE FOR THE EMERGENCY ROOM ENCOUNTER?

Instructions: Review the medical record to determine if there is a discharge diagnosis ICD-10 code associated with the emergency room encounter.
Select one of the following:

- *"Yes"* If there is documentation in the EMR of a discharge diagnosis ICD-10 code for the emergency room encounter. ***Answer question 1.2.2.1***
- *"No"* If there is no documentation in the EMR of a discharge diagnosis ICD-10 code for the emergency room encounter.
- *"Unknown"* If the medical record is silent as to the discharge diagnosis ICD-10 code for the emergency room encounter.

1.2.2.1. WHAT IS THE PRIMARY DISCHARGE DIAGNOSIS ICD-10 CODE FOR THE EMERGENCY ROOM ENCOUNTER?

Instructions: Review the medical record to determine the primary discharge diagnosis ICD-10 code for the emergency room encounter. This information may be found in the discharge summary. Use the free text box to enter the ICD-10 code that corresponds with the primary discharge diagnosis.
Note: Enter in only one ICD-10 code and make sure that it is capitalized. Do not hit enter while inputting ICD-10 codes into the box.

1.2.3. DATE OF ADMISSION

Instructions: Review the medical record to determine the date of the overnight stay in a medical facility greater than (>) 24 hours in length. Record the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.2.4. CAN YOU SEE AN ADMISSION DIAGNOSIS ICD-10 CODE FOR THE OVERNIGHT STAY IN A MEDICAL FACILITY > 24 HOURS?

Instructions: Review the medical record to determine if there is an admission diagnosis ICD-10 code available for the overnight stay in a medical facility greater than (>) 24 hours in length.
Select one of the following:

- *"Yes"* if the medical record indicates an admission diagnosis ICD-10 code for the overnight stay in a medical facility greater than (>) 24 hours. ***Answer question 1.2.4.1***
- *"No"* if the medical record does not indicate an admission ICD-10 diagnosis for the overnight stay in a medical facility greater than (>) 24 hours.
- *"Unknown" if the medical record is silent as to whether there is an admission* diagnosis ICD-10 code for the overnight stay in a medical facility greater than (>) 24 hours.

1.2.4.1. WHAT IS THE PRIMARY ADMISSION DIAGNOSIS ICD-10 CODE FOR THE OVERNIGHT STAY IN A MEDICAL FACILITY > 24 HOURS?

Instructions: Review the medical record to determine the patient's primary admission diagnosis ICD-10 code for the overnight stay in a medical care facility lasting greater than (>) 24 hours. This information may be found in the Admission History and Physical. Use the free text box to enter the ICD-10 code that corresponds with the primary admission diagnosis.
Note: Enter in one ICD-10 code and make sure that it is capitalized. Do not hit enter while imputing ICD-10 codes into the box.

1.2.5. DURING THE PERIOD OF REVIEW, IS THE PATIENT STILL IN THE MEDICAL CARE FACILITY INDICATED ABOVE?

Instructions: Review the medical record to determine if the patient is still currently hospitalized in the medical care facility indicated above.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient is still in the medical care facility indicated above.
- *"No"* if the medical record does not indicate that the patient is still in the medical care facility indicated above. ***Answer questions 1.2.5.1 and 1.2.5.2***
- *"Unknown"* if the medical record was silent regarding the patient being hospitalized.

1.2.5.1. DATE OF DISCHARGE

Instructions: Review the medical record to determine the date of discharge from the overnight stay in a medical facility greater than (>) 24 hours in length. Record the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

1.2.5.2. CAN YOU SEE A DISCHARGE DIAGNOSIS ICD-10 CODE FOR THIS PATIENT?

Instructions: Review the medical record to determine if there is a discharge diagnosis ICD-10 code available for the overnight stay in a medical facility greater than (>) 24 hours in length.

Select one of the following:

- *"Yes"* if the medical record indicates a discharge diagnosis ICD-10 code for the overnight stay in a medical facility greater than (>) 24 hours. ***Answer question 1.2.5.2.1***
- *"No"* if the medical record does not indicate a discharge diagnosis ICD-10 code for the overnight stay in a medical facility greater than (>) 24 hours.
- *"Unknown" if the medical record is silent as to whether there is a* diagnosis ICD-10 code for the overnight stay in a medical facility greater than (>) 24 hours.

1.2.5.2.1. WHAT IS THE PRIMARY DISCHARGE DIAGNOSIS ICD-10 CODE FOR THE OVERNIGHT STAY IN A MEDICAL FACILITY > 24 HOURS?

Instructions: Review the medical record to determine the patient's primary discharge diagnosis ICD-10 code for the overnight stay in a medical care facility lasting greater than (>) 24 hours. This information may be found in the Discharge summary. Use the free text box to enter the ICD-10 code that corresponds with the primary discharge diagnosis. Note: Enter in one ICD-10 code and make sure that it is capitalized. Do not hit enter while imputing ICD-10 codes into the box.

1.2.6. DURING THE PERIOD OF REVIEW, IS THERE DOCUMENTATION THAT THE PATIENT RECEIVED AN ADDITIONAL MEDICAL SERVICES ENCOUNTER (I.E. EMERGENCY ROOM OR OVERNIGHT STAY GREATER THAN (>) 24 HOURS)?

Instructions: Review the medical record to determine if there is documentation that the patient had an additional emergency room encounter, or an overnight stay in a medical care facility that lasted greater than (>) 24 hours.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient received an additional medical services encounter during the period of review.

- *"No"* if the medical record does not indicate that the patient received an additional medical services encounter during the period of review.
- *"Unknown"* if the medical record is silent as to additional medical services encounters during the period of review.

3. **IS THERE INFORMATION IN THE MEDICAL RECORD OR OTHER RESOURCES THAT SHOW THAT THE PATIENT IS ANY OF THE FOLLOWING ON THE LAST DAY OF THE REVIEW PERIOD:**

Instructions: Review the medical record to determine if the patient is in the hospital, inpatient hospice, at an extended care facility, in prison, or deceased at the last day of the review period (day 30 post-Midline placement).

Note: This question will help you to determine whether a follow-up phone call should be made. If there is information that the patient is in the hospital, inpatient hospice, home hospice, ECF, prison, or deceased on the last day of the review period OR had their Midline removed, the follow up phone call is not applicable.

Select one of the following:

- *"In the Hospital"* if the medical record indicates that the patient is in the hospital at the 30th day post-Midline placement.
  INCLUDE: Inpatient rehabilitation
- *"Inpatient Hospice"* if the medical record indicates that the patient is inpatient hospice at the 30th day post-Midline placement..
  INCLUDE: Inpatient hospice care, hospice inpatient facility
- *"Home Hospice"* if the medical record indicates that the patient is in home hospice at the 30th day post-Midline placement.
- *"Extended Care Facility"* if the medical record indicates that the patient is at an extended care facility at the 30th day post-Midline placement..
  INCLUDE: Skilled nursing home, nursing home, skilled nursing facility (SNF), Sub-acute rehabilitation (rehab), sub-acute rehabilitation care, post-acute rehabilitation center.
  Note: There must be documentation in the medical record that the patient is in an Extended Care Facility on the 30^{th} day post-placement to make this selection. Discharge to an Extended Care Facility without confirmation that the patient is still in this facility on the 30^{th} day post-placement will not count as documentation for this selection.
- *"Prison"* if the medical record indicates that the patient is in prison at the 30th day post-Midline placement.
  INCLUDE: Correctional facility, jail, prison, penitentiary

- *"Deceased (Complete Death Form)"* if the medical record indicates that the patient is deceased at the 30th day post-Midline placement.
  Reminder: If this is selected, you should have a corresponding entry in the Death Form.
  INCLUDE: Patient expired, patient deceased, termination of life
- *"None of the above or unknown"* if the medical record does not indicate that the patient is one of the above or is silent as to the disposition of the patient on the last day of the review period.

Follow-Up Phone Call: Period of Review

For the 30-day follow-up phone call, you ask the patient about things that have happened since the time of discharge until:

- Midline removal (if Midline was removed prior to day 30)
  OR
- Day 30 post-Midline placement (if Midline still in place at day 30)

The 30-day follow-up phone call must occur 30 days after the date of Midline placement, or within the 7-day leeway window. Please note that if the 7-day leeway window is used (will allow an extra 7 days beyond the end of the cycle for the completion of data collection), only include information from the date of Midline placement until day 30.

Three phone calls should be attempted on all patients eligible for a follow-up phone call. At the time of the 3rd attempted phone call, if unable to reach the patient, please leave a message on the patient's voicemail informing the patient they can expect to receive an email from the hospital encouraging participation in the survey related to their vascular access device.

After attempting all three phone calls to the patient, please obtain the patient's email address from the medical record and click on the "PRO's" tab in the database to send the PRO follow up email to the patient. You will be prompted to enter and confirm the patients email address. You will also be asked to select the month of the index line insertion. After entering the requested information, please click "submit".

If there is no response within 48 hours, the patient will receive a second automated message.

Follow-Up Phone Call Details

Reminder: Only capture new information provided by the patient or the patient's durable power of attorney (DPOA) that was not already abstracted during the chart review. If there is information that the patient is in the hospital, inpatient hospice, ECF, prison, or deceased on the last day of the review period OR had their MIDLINE removed, the phone call is not applicable and this form does not need to be completed.

Note: The Follow-up Phone Call Detail section will not show for data entry if the patient is in the hospital, inpatient hospice, at an extended care facility, in prison or deceased on the last day of the review period or had their MIDLINE removed during the period of review.

1. **NUMBER OF PHONE CALLS**

Instructions: Indicate the number of phone call attempts that were made regardless of whether they were successful or unsuccessful attempts. There are three (3) options for this question.
Select one of the following:

- *"1"* if one phone call was made. ***Answer questions 1.1 and 1.4***
- *"2"* if two phone calls were made. ***Answer questions 1.1, 1.2, and 1.4***
- *"3"* if three phone calls were made. ***Answer questions 1.1 through 1.4***
  Note: If the patient does not respond on the third phone call attempt, leave a voicemail informing the patient he/she will receive an email from the hospital encouraging participation in a survey related to their Midline. Obtain the patient's email address from the medical record and click on the "PROs" tab in the database to send the follow-up email to the patient. You will be prompted to enter and confirm the patients email address. You will also be asked to select the month of the index line insertion. After entering the requested information, please click "submit". If there is no response within 48 hours, the patient will receive a second automated message.

- *"N/A- Patient Status Change since end of the period of review"* if you were supposed to make the phone call, however, there is information in the medical record or other resources that shows the patient is in the hospital, inpatient hospice, an extended care facility, prison, deceased or the Midline has been removed since the end of the period of review. ***Answer question 1.5***

  1.1. DATE CALL #1
  Instructions: Indicate the date of your first call to the patient, regardless if the patient answered or not. Indicate the date in the MM/DD/YYYY format.

  1.2. DATE CALL #2
  Instructions: Indicate the date of your second call to the patient, regardless of if the patient answered or not. Indicate the date in the MM/DD/YYYY format.

  1.3. DATE CALL #3
  Instructions: Indicate the date of your third call to the patient, regardless of if the patient answered or not. Indicate the date in the MM/DD/YYYY format.

  1.4. WERE YOU ABLE TO OBTAIN INFORMATION ABOUT THE PATIENT?
  Instructions: Indicate whether you were able to obtain information from the patient. Some individuals may not be able to communicate with you directly due to language barriers, cognitive status, lack of education, etc. It is only acceptable to speak to someone other than the patient if you can confirm the identity of the patient and you know the person has the appropriate regulatory authority to speak on behalf of the patient. If you are voluntarily notified by a family member via the phone that the patient is deceased, you should record this information.
  INCLUDE: If you were able to reach the patient or patient representative (i.e., family, caregiver, etc.) and obtain any information. Also, if you are voluntarily notified by a family member that the patient was deceased.
  Select one of the following:
  - *"Yes"* if you were able to obtain information from the patient. ***Answer question 1.4.1***
  - *"No"* if you were unable to obtain information from the patient. ***Answer question 1.4.2***

    1.4.1. DO YOU CURRENTLY STILL HAVE YOUR MIDLINE?
    Instructions: This question asks whether the patient still has the Midline (the Midline being abstracted during baseline data collection) in place. Indicate if

the Midline is currently in place upon follow-up call.
INCLUDE: Any statement from the patient that their Midline is currently in place.
EXCLUDE: Any statement from the patient that their Midline has been removed, replaced, accidently pulled out, etc.
Select one of the following:

- *"Yes"* if the patient indicates the Midline is still in place. ***Answer question 1.4.2.1***
- *"No"* if the patient indicates that the Midline is not still in place. ***Answer questions 1.4.1.2 and 1.4.1.3***

1.4.1.1. WHERE IS YOUR MIDLINE LOCATED?

Instructions: Indicate the extremity in which the Midline is located.
Select one of the following:

- *"Left Arm"* if the patient indicates that the Midline is located in their left arm.
  INCLUDE: Left arm, left upper extremity, left elbow, left forearm, left upper arm, etc.
- *"Right Arm"* if the patient indicates that the Midline is located in their right arm.
  INCLUDE: Right arm, right upper extremity, right elbow, right forearm, right upper arm, etc.

1.4.1.2. DATE REMOVED

Instructions: Indicate the date of Midline removal in MM/DD/YYYY format.
Note: If the date/time of actual removal is unknown, please do the following: Ascertain the date (via medical documentation) on which it is known that the Midline is present. Compare this to the date of the follow-up Phone call in which the patient confirms the Midline is no longer in place. Enter the Midline removal date as the date that is in the middle of these two known dates. Then, please indicate that you completed this process to determine the Midline removal date in the abstractors notes section.

1.4.1.3. REASON REMOVED

Instructions: Indicate the reason for which the Midline was removed.
Check all that apply:

- *"Complication"* if the patient indicates that the Midline was removed due to a complication.
  INCLUDE: Patient response that the Midline was removed due to infection, thrombus (i.e. blood clot), dislodgement (i.e. patient pulled Midline out accidently), inability to flush line (i.e. clotting), kinking, coiling, tip migration, etc.
- "*Accidental removal or dislodgement*" if the patient indicates the Midline was removed because it was accidentally removed/pulled out or became dislodged and resulted in removal.
  INCLUDE: Midline removal from patient accidentally pulling out line
- "*Death (Complete Death Form)"* if the Midline was removed due to the patient's death. Please complete the death form.
- "*Treatment Discontinued*" if the patient indicates the Midline was removed because the patient's treatment was discontinued/stopped.
- *"Other"* if the patient indicates that the Midline was removed for a reason not indicated above.
- *"Unknown"* if the patient indicates that the Midline was removed for an unknown reason.

1.4.2. SPECIFY REASON YOU WERE NOT ABLE TO OBTAIN INFORMATION ABOUT THE PATIENT

Instructions: Indicate the reason(s) why you were not able to obtain information about the patient.
Select all that apply:

- "*Wrong Number*" if the number called was the incorrect phone number. Be sure to check back in the chart to see if there are other phone numbers listed. ***Answer question 1.4.2.1***
- "*Disconnected Number*" if the phone number was disconnected at the time the call attempt was made. ***Answer question 1.4.2.1***
- "*No Answer*" if after the final attempt you were still unable to reach the patient by phone. ***Answer question 1.4.2.1***
  INCLUDE: Another family member answers and indicates the patient is not home/unable to talk at this time.
- "*Patient Refusal*" if the patient refused to provide you with the information.
- "*Patient Unavailable/Unable to Respond*" if the patient was unavailable, unable to respond or has no contact number. For example, the individual is in jail, currently hospitalized, or not cognitively able to respond.

INCLUDE: You are informed over the phone that the patient is not available to respond because they are in jail, in the hospital, or not cognitively able to respond.

EXCLUDE: Patient unavailable to respond because you are informed they are not home at this time.

- "*Language Barrier*" if you were unable to communicate with the patient due to the patient's inability to speak English. ***Answer question 1.4.2.1***
- "*Patient Deceased (Complete Death Form)"* if the patient was not deceased at the follow-up period, however, they were deceased by the time the phone call was made. Reminder: If this is selected you should have a corresponding entry in the Death Form.
- *"Deceased since end of the period of review"* if the patient was <u>not</u> deceased at the end of the period of review however, they were deceased by the time the phone call was to be made.
- *"Inpatient hospice since end of the period of review"* if the patient was <u>not</u> in inpatient hospice at the end of the period of review however, they were inpatient hospice by the time the phone call was to be made.
- *"Home hospice since the end of the period of review"* if the patient was <u>not</u> in home hospice at the end of the period of review, but they were in home hospice by the time the phone call was to be made.
- *"ECF since end of the period of review"* if the patient was <u>not</u> in an ECF at the end of the period of review however, they were in ECF by the time the phone call was to be made.
- *"Prison since end of the period of review"* if the patient was <u>not</u> in prison at the end of the period of review however, they were in prison by the time the phone call was to be made.
- *"In hospital since end of the period of review"* if the patient was <u>not</u> in the hospital at the end of the period of review however, they were in the hospital by the time the phone call was to be made.
- *"Midline removed since end of the period of review"* if the patient had their Midline in place at the end of the period of review however, there is documentation of Midline removal by the time the phone call was to be made.
- *"Midline still in place since end of the period of review"* if the patient had their midline in place at the end of the period of review, and there is documentation that the midline is still in place by the time the phone call was to be made

1.4.2.1. WAS THE PROS PROCESS STARTED?

Instructions: Indicate whether the email PROs process was started for this patient.

Select one of the following:

- *"Yes"* if the email PROs process was/will be started. ***Answer question 1.4.2.1.1***
- *"No"* if the email PROs process was not/will not be started. ***Answer question 1.4.2.1.2***

1.4.2.1.1. WHAT CONTACT INFORMATION IS AVAILABLE?

Instructions: Review the medical record for what contact information is available for the patient to be able to begin the electronic PROs process.

Select one of the following:

- *"Email address only"* if the only contact information available for the patient is an email addres.
- *"Cell/phone number only"* if the only contact information available for the patient is a phone number.
  INCLUDE: Phone numbers that are not specified as to whether they are for a cell phone or landline
- "*Email address and cell/phone number"* if both an email address and a cell/phone number is available for the patient.

1.4.2.1.2. PLEASE PROVIDE A REASON FOR WHY THE PROS PROCESS WAS NOT STARTED.

Instructions: Please specify the reason as to why the electronic PROs process was not/will not be started.

Select one of the following:

- *"Missing email address"* if the email PROs process was not started because the patient did not have a listed email address.
- *"Missing cell phone number"* if the text PROs process was not started because the patient does not have a listed cell phone number.
- *"Other"* if there is another reason as to why the electronic PROs process was not started.

  PLEASE DESCRIBE THE "OTHER" REASON FOR WHY THE PROS PROCESS WAS NOT STARTED.

  Instructions: In the free text box provided, please describe the reason as to why the electronic PROs process was not/will not

be started.

1.5. SPECIFY REASON YOU WERE NOT ABLE TO OBTAIN INFORMATION ABOUT THE PATIENT

Instructions: Indicate the reason(s) why you were not able to obtain information about the patient.

Select all that apply:

- *"Deceased since end of the period of review"* if the patient was not deceased at the end of the period of review however, they were deceased by the time the phone call was to be made.
- *"Inpatient hospice since end of the period of review"* if the patient was not in inpatient hospice at the end of the period of review however, they were inpatient hospice by the time the phone call was to be made.
- *"Home hospice since the end of the period of review"* if the patient was not in home hospice at the end of the period of review; however, they were in home hospice by the time the phone call was to be made.
- *"ECF since end of the period of review"* if the patient was not in an ECF at the end of the period of review however, they were in ECF by the time the phone call was to be made.
- *"Prison since end of the period of review"* if the patient was not in prison at the end of the period of review however, they were in prison by the time the phone call was to be made.
- *"In hospital since end of the period of review"* if the patient was not in the hospital at the end of the period of review however, they were in the hospital by the time the phone call was to be made.
- *"Midline removed since end of the period of review"* if the patient had their Midline in place at the end of the period of review however, there is documentation of Midline removal by the time the phone call was to be made.
- *"Midline still in place since end of the period of review"* if the patient had their midline in place at the end of the period of review, and there is documentation that the midline is still in place by the time the phone call was to be made

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Electronic PROs Capture

Purpose of Electronic PROs Capture

Over time, HMS has observed a decrease in the success rates of patient reported outcomes (PROs) using phone calls as a follow-up method. Therefore, the goal of capturing PROs using electronic methods is to increase the success rate of follow-up after three phone calls have been attempted.

When to Use the PROs Tab

You should use the PROs tab after three unsuccessful phone call attempts. If you were successful in completing a follow up phone call with the patient, you should not utilize the PROs tab for that case.

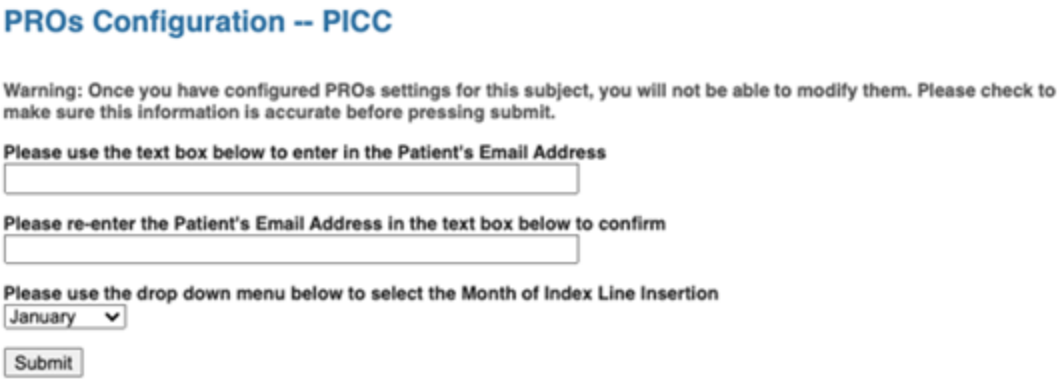
Note: At this time, this process applies to the first line only. For all subsequent lines on the same patient, you should not initiate the PROs email process. Please attempt three phone calls on all subsequent lines.

How to Use the PROs Tab

On the third phone call attempt, if there is no answer, please leave a detailed voice message (if able). In the voicemail, state the purpose of the phone call and that the person you are calling will be receiving an email shortly with a survey link to obtain information about their recent hospital stay. If the patient does not have a voicemail, you should still send the email.

After three unsuccessful attempts to reach the patient using a phone call, click on the PROs tab.

Based on the insertion line type selected (PICC/Midline), the following configuration will appear:

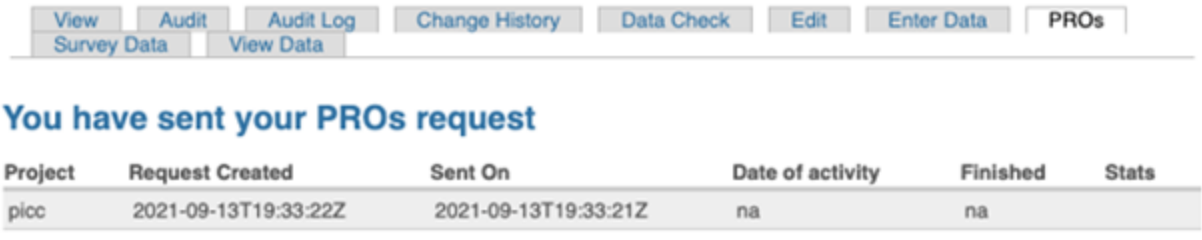


Steps:

1. Enter the patient's email address found in the medical record in the first text box
2. Re-enter the patient's email address in the second text box
3. Use the drop-down menu to select the month of index line insertion based on the medical chart
4. Once all information is confirmed correct, click the "Submit" button.

After you click "Submit", you will be returned to the "View" tab. To confirm your email was sent to the patient, click the PROs tab again. The following screen will appear. You can view the date and time the email was sent. Subtract 4 hours from the time sent for Eastern Standard Time, e.g., 19:33:21 is equal to 15:33:21 or 3:33 pm.

Note 1: Ignore the letters T and Z on the date/time stamp, those are internal indicators.



Note 2: The email sent to the patient with the link to complete their follow up survey will expire after 72 hours. If the patient does not complete the survey after 72 hours, they will automatically receive another email with a new link to complete the survey. There is no action you need to take to facilitate the sending of this second email – it will happen automatically. Below is what you will see when someone completes the survey.

User-uploaded image: image.png

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the baseline data forms or if you would like to remove this form. Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to remove this form. ***Answer question 1.1 through 1.2***
- *"No"* if you do not have any notes that you would like to include or you do not want to remove this form.

1.1 ABSTRACTOR NOTES

Instructions: Use free text to input your notes.
Important: Do not enter any PHI (Protected Health Information)

1.2 DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: This question will default to "No". If you would like to exclude/remove this form you must manually change your answer to "Yes". Select one of the following:

- *"Yes"* if you would like to exclude/remove this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would like to include this form in the data analysis. Note: This is the default.

1.2.1 ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM? IF YES, PLEASE ENTER THE REASON FOR FORM REMOVAL IN THE ABSTRACTOR NOTES SECTION ABOVE.

- *"Yes"* if you are sure you would like to exclude/remove this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you are sure you would like to include this form in the data analysis. Note: This is the default.

Blood Cultures (Midline)

Blood Culture

Instructions: For all questions in the database "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

REMINDER: This form should only be completed if the patient had positive blood cultures drawn during the time frame of abstraction, which begins 14 days prior to Midline placement through two days after Midline removal, 30 days after Midline placement, or death whichever occurs first.
Note: This form needs to be completed for each positive blood culture drawn during the time frame of abstraction. For example, if the patient had 2 positive blood cultures drawn on 2/5/17 you would complete 2 blood culture forms.
INCLUDE: Positive Fungal Blood Cultures

1. **DATE OF MIDLINE PLACEMENT**

Instructions: Indicate the date that the Midline of interest was placed. Enter the date in MM/DD/YYYY format.

2. **THIS IS SUCCESSFUL MIDLINE #_____ ABSTRACTED ON THIS DATE.**

Instructions: Review the medical record to determine which Midline is entered that corresponds to the date of index placement.
Note 1: The default will always be one; however, if this is the second Midline line inserted on the same date indicated above then you must manually change the entry using the drop-down box.
Note 2: Only enter Midline lines that were entered into the HMS database. Example, if an individual at your institution had two Midline lines inserted on the same date and only one of these resulted in entry into the Midline database you would indicate this as Midline line #1. If both Midline lines were entered into the HMS database, then the first would be Midline line #1 and the second would be Midline line #2.
Select one of the following:

- *"1"* if the Midline indicated above is the first Midline inserted on the date indicated above. Note: This is the default answer.
- *"2"* if the Midline indicated above is the second Midline inserted on the date indicated above.
- *"3"* if the Midline indicated above is the third Midline inserted on the date indicated above.
- *"4"* if the Midline indicated above is the fourth Midline inserted on the date indicated above.
- *"5"* if the Midline indicated above is the fifth Midline inserted on the date indicated above.

3. **POSITIVE BLOOD CULTURE- DATE OF CULTURE**

Instructions: Review the medical record to determine the date of collection of the positive blood culture (i.e., date the culture was drawn). Indicate the date in the MM/DD/YYYY format.

4. **POSITIVE BLOOD CULTURE- SITE OF CULTURE**

Instructions: Review the medical record to determine the site of the positive blood culture (i.e., where was the blood culture taken from). This information will likely be on the laboratory report of the blood culture or within the progress notes.
Select one of the following:

- *"Vein"* if the medical record indicates that the site of the positive blood culture was a vein.
  INCLUDE: Documentation that the site from which the blood culture was obtained was from a vein such as (but not limited to) right antecubital (AC), left AC, right basilic, left basilic, right cephalic, left cephalic, etc., blood peripheral
- *"Midline Catheter Lumen"* if the medical record indicates that the site of the positive blood culture was from a lumen of the Midline catheter.
  INCLUDE: Documentation that the site from which the blood culture was obtained was from a lumen (catheter) of a Midline.
- *"PICC Catheter Lumen (not other CVC's)"* if the medical record indicates that the site of the positive blood culture was from a lumen of a PICC catheter.
  INCLUDE: Documentation that the site from which the blood culture was obtained was from a lumen (catheter) of a PICC.
- *"Port"* if the medical record indicates that the site of the positive blood culture was a port.
  INCLUDE: Documentation that the site from which the blood culture was obtained was from a port, mediport, chest port, etc.

- "Dialysis Catheter" if the medical record indicates that the site of the positive blood culture was a dialysis catheter.
- "CVC (not PICC)" if the medical record indicates that the site of the positive blood culture was a central venous catheter (CVC) that is not a PICC line.
  Note: A medport would be included in the "Port" selection.
- *"Other"* if the medical record indicates that the site of the positive blood culture was not identified above.
  INCLUDE: If the blood culture was obtained from an arterial line
  FOR OTHER SITE, PLEASE SPECIFY
  Instructions: Use free text to indicate the site.
- "*Unknown*" if the medical record is silent as to the site of the positive blood culture.

5. **POSITIVE BLOOD CULTURE- PATHOGEN IDENTIFIED**

Instructions: Review the medical record to determine the pathogen identified on the positive blood culture. Pathogens are classified by genus and species. The genus and species of the pathogen will be found on the laboratory report. Indicate the genus, which is the broad or the generic name. Once genus is selected, you will be prompted to indicate the species.

Note 1: Enter the specific isolate result (genus, species) and not the gram stain result.

Select one of the following:

- *"Achromobacter"*
- *"Acinetobacter"*
- *"Actinomyces"*
- *"Aerobacter"*
- *"Aerococcus"*
- *"Aeromonas"*
- *"Alcaligenes"*
- *"Alpha-hemolytic Streptococcus, not S pneumonia"*
- *"Arachinia"*
- *"Arcanobacterium"*
- *"Aspergillus"*
- *"Arthrobacter"*
- *"Bacillus"*
- *"Bacterionema"*
- *"Bacteroides"*
- *"Bordetella"*

- *“Branhamella”*
- *“Brevibacillus”*
- *“Brevibacterium”*
- *“Burkholderia”*
- *“Candida”*
  INCLUDE: Yeast and Torulopsis Glabrata
- *“Citrobacter”*
- *“Clostridium”*
- *“Corynebacterium”*
- *“Cupriavidus”*
- *“Dermabacter”*
- *“Dermacoccus”*
- *“Diptheroids”*
- *“Elizabethkingia”*
- *“Enterobacter”*
- *“Enterococcus”*
- *“Escherichia”*
- *“Francisella”*
- *“Friedlander’s”*
- *“Fusobacterium”*
- *“Gordonia”*
- *“Granulicatella”*
- *“Haemophilus”*
- *“Histoplasma”*
- *“Kocuria”*
- *“Klebsiella”*
- *“Kluyvera”*
- *“Legionella”*
- *“Levinea”*
- *“Listeria”*
- *“Microbacterium”*
- *“Micrococcus”*
- *“Monilia”*
- *“Moraxella”*
- *“Morganella”*
- *“Neisseria”*
- *“Nocardia”*
- *“Oidium”*

- *"Paeni"*
- *"Pantoea"*
- *"Pasteurella"*
- *"Padiococcus"*
- *"Peptococcus"*
- *"Peptostreptococcus"*
- *"Prevotella"*
- *"Pneumocystis"*
- *"Propionibacterium"*
- *"Propioniferax"*
- *"Proteus"*
- *"Providencia"*
- *"Pseudomonas"*
- *"Raoultella"*
- *"Rhodococcus"*
- *"Rothia"*
- *"Rummeliibacillus"*
- *"Salmonella"*
- *"Sarcina"*
- *"Scedosporium"*
- *"Serratia"*
- *"Solibacillus"*
- *"Stapyhlococcus "*
- *"Stenotrophomonas"*
- *"Streptococcus"*
- *"Trueparella"*
- *"Tsukamurella"*
- *"Tufted Mitior"*
- *"Turicella"*
- *"Viridans Group"*
- *"Xanthomonas"*
- *"Yersina"*
- *"Other (See the CDC's complete list in the knowledge base)"*

  FOR OTHER, PLEASE SPECIFY

  Instructions: Do not use the selection "Other" until you have contacted the coordinating center for guidance. Use free text to indicate "other".

  INCLUDE: Streptococcus Intermedius, Gemella Morbillorum
- *"Bacteria Not Specified"*

EXAMPLES: 1. Final result notes gram negative bacilli, without pathogen identification due to low colony count. 2. Institutional practice deems a culture positive based only on a positive gram stain result without further pathogen identification. 3. Culture result noted as "gram positive cocci" or "gram positive bacilli" without specification.

6. **FOR THE POSITIVE BLOOD CULTURE, WAS THERE AN ADDITIONAL PATHOGEN IDENTIFIED?**

Instructions: Review the medical record to determine if an additional pathogen was identified on the positive blood culture.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a second pathogen identified within the positive blood culture. ***Answer question 6.1***
- *"No"* if the medical record does not indicate that the patient had a second pathogen identified within the positive blood culture.
- *"Unknown"* if the medical record is silent as to whether the patient had a second pathogen identified within the positive blood culture.

6.1. PATHOGEN (#2) IDENTIFIED

Instructions: Review the medical record to determine the second pathogen identified within the blood culture. Repeat the steps outlined above for up to five pathogens.

7. **IS THERE DOCUMENTATION THAT THE POSITIVE BLOOD CULTURE IS CONTAMINATED?**

Instructions: Review the medical documentation to determine if there was documentation in the laboratory report that the positive blood culture was contaminated.
Select one of the following:

- *"Yes"* if the medical record lab results indicate that the positive blood culture was contaminated or possibly contaminated.
  INCLUDE: Documentation of contamination in the microbiology report/lab results for the culture.
  EXCLUDE: Documentation of contamination by the provider in a progress note.
- *"No"* if the medical record lab results do not indicate that the positive blood culture was contaminated or possibly contaminated.
- *"Unknown"* if the medical record lab results are silent as to whether the positive blood culture was contaminated or possibly contaminated.

8. **IS THIS THE <u>FIRST</u> POSITIVE BLOOD CULTURE ENTERED FOR THIS DATE?**

Instructions: Review the medical record to determine if this is the first positive blood culture collected on this date. If "No" is selected as the response to this question, the Symptoms section will not populate, as that information only need to be entered for the first positive blood culture on each date.

Select one of the following:

- "*Yes*" if this is the first positive blood culture entered into the database for this date.
- "*No*" if this is the second (or more) blood culture entered into the database for this date.

Major Complications Device Related Blood Stream Infection - Symptoms

1. **DID THE PATIENT EXPERIENCE A FEVER > 38 DEGREES CELSIUS OR >100.4 FAHRENHEIT DURING THE 3 DAYS BEFORE, THE DAY OF OR THE 3 DAYS AFTER THE POSITIVE BLOOD CULTURE SAMPLE WAS COLLECTED?**

Instructions: Review the medical record to determine if there is documentation that the patient had a fever greater than 38^{o}C or greater than 100.4^{o}F in the three days before, the day of or the 3 days after the positive blood culture sample was collected. If there is documentation that the patient was febrile (i.e., had a fever), review the progress note to determine if the temperature was greater than 38^{o}C or greater than 100.4^{o}F.

INCLUDE: Any documented temperature that was greater than 38^{o}C (or greater than 100.4^{o}F) during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. Include any temperature that meets these criteria, during this time frame (3 days before, the day of or the 3 days after the positive blood culture even if it falls outside the period of review (e.g., the Midline was removed the day of the blood culture collection or it is 33 days post-Midline placement, etc.)

EXCLUDE: temperature equal to or below 38^{o}C or 100.4^{o}F .

Select one of the following:

- "Yes" if the medical record indicates that the patient had a fever > 38^{o}C or > 100.4^{o}F during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. ***Answer question 1.1***
- "No" if the medical record does not indicate that the patient had a fever > 38^{o}C or > 100.4^{o}F during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected.
- "Unknown" if the medical record was silent as to the patient's temperature during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected.

1.1. IF YES, DATE OF ONSET

Instructions: Review the medical record to determine the date of fever (>38^{o}C or >100.4^{o}F) onset. Indicate the first date the patient had a documented fever (i.e., greater than 38^{o}C or greater than 100.4^{o}F) during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. Indicate the date in the MM/DD/YYYY format.

2. **DID THE PATIENT EXPERIENCE HYPOTHERMIA WITH A BODY TEMPERATURE <36.5 DEGREES CELSIUS DURING THE 3 DAYS BEFORE, THE DAY OF OR THE 3 DAYS AFTER THE POSITIVE BLOOD CULTURE SAMPLE WAS COLLECTED?**

Instructions: Review the medical record to determine if there is documentation that the patient had hypothermia with a body temperature < 36.5^{o}C (or < 97.7 ^{o}F) during the three days before, the day of or the 3 days after the positive blood culture sample was collected. If there is documentation that the patient was hypothermic, review the progress note to determine if the temperature was greater than <36.5^{o}C or < 97.7 ^{o}F.

INCLUDE: Any documented temperature that was less than 36.5^{o}C during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. Include any temperature that meets these criteria, during this time frame (3 days before, the day of or the3 days after the positive blood culture even if it falls outside the period of review (e.g., the Midline was removed the day of the blood culture collection or it is 33 days' post Midline placement, etc.)

EXCLUDE: Any temperature equal to or above 36.5^{o}C or 97.7 ^{o}F.

Select one of the following:

- "Yes" if the medical record indicates that the patient had hypothermia < 36.5^{o}C or 97.7 degrees Fahrenheit during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. ***Answer question 2.1***

- "No" if the medical record does not indicate that the patient had hypothermia <36.5^{o}C or <97.7 degrees Fahrenheit during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected.
- "Unknown" if the medical record was silent as to the patient's temperature during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected.

2.1. IF YES, DATE OF ONSET

Instructions: Review the medical record to determine the date of hypothermia (<36.5^{o}C or <97.7 ^{o}F) onset. Indicate the first date the patient had documented hypothermia (i.e., less than 36.5^{o}C or 97.7 ^{o}F) during the 3 days before, the day of or the 3 days after the positive blood culture sample was collected. Indicate the date in the MM/DD/YYYY format.

3. **DID THE PATIENT EXPERIENCE CHILLS DURING THE 3 DAYS BEFORE, THE DAY OF OR THE 3 DAYS AFTER THE POSITIVE BLOOD CULTURE SAMPLE WAS COLLECTED?**

Instructions: Review the medical record to determine if the patient experienced chills during the three days before, the day of or the 3 days after the positive blood culture sample was collected. This information is likely to be found within the physician progress notes. There are three (3) options for this question.
INCLUDE: Explicit documentation that the patient experienced chills, rigors, or shivering in the three days before, the day of or the 3 days after the positive blood culture sample was collected. Include any documentation of chills, during this time frame (3 days before, the day of or the3 days after the positive blood culture even if it falls outside the period of review (e.g., the Midline was removed the day of the blood culture collection or it is 33 days post-Midline placement, etc.)
Select one of the following:

- *"Yes"* if the medical record indicates that the patient experienced chills in the three days before, the day of or the 3 days after the positive blood culture sample was collected. ***Answer question 3.1***
- *"No"* if the medical record does not indicate that the patient experienced chills in the three days before, the day of or the 3 days after the positive blood culture sample was collected.
- *"Unknown"* if the medical record was silent as to whether the patient experienced chills in the three days before, the day of or the 3 days after the positive blood culture sample was collected.

3.1. IF YES, DATE OF ONSET

Instructions: Review the medical record to determine the date of the onset of the chills. In other words, indicate the first date the patient had documented chills in the three days before, the day of or the 3 days after the positive blood culture sample was collected. Indicate the date in the MM/DD/YYYY format.

4. **DID THE PATIENT EXPERIENCE HYPOTENSION DURING THE 3 DAYS BEFORE, THE DAY OF OR THE 3 DAYS AFTER THE POSITIVE BLOOD CULTURE SAMPLE WAS COLLECTED?**

Instructions: Review the medical record to determine if the patient experienced hypotension (i.e., sudden drop in blood pressure) defined as a systolic blood pressure of less than 90 mmHg during the three days before, the day of or the 3 days after the positive blood culture sample was collected. This information is likely to be found within the physician progress notes and/or vital signs. There are three (3) options for this question.

INCLUDE: Explicit documentation that the patient experienced hypotension defined as a systolic blood pressure of less than 90 mmHg during the three days before, the day of or the 3 days after the positive blood culture sample was collected. This may be found in the documentation for example as a non-invasive blood pressure (NIBP), arterial BP, etc. Include any documentation of hypotension defined as a systolic blood pressure of less than 90 mmHg, during this time frame (3 days before, the day of or the 3 days after the positive blood culture even if it falls outside the period of review (e.g., the Midline was removed the day of the blood culture collection or it is 33 days post-Midline placement, etc.)

EXCLUDE: Documentation that the patient 's systolic blood pressure was greater than or equal to 90mmHg.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient experienced hypotension (a systolic blood pressure of less than 90 mmHg) during the three days before, the day of or the 3 days after the positive blood culture sample was collected.
  Answer question 4.1
- *"No"* if the medical record does not indicate that the patient experienced hypotension (a systolic blood pressure of less than 90 mmHg) during the three days before, the day of or the 3 days after the positive blood culture sample was collected.
- *"Unknown"* if the medical record was silent as to whether the patient experienced hypotension (a systolic blood pressure of less than 90 mmHg) during the three

days before, the day of or the 3 days after the positive blood culture sample was collected.

4.1. IF YES, DATE OF ONSET

Instructions: Review the medical record to determine the date of the onset of the hypotension. In other words, indicate the first date the patient had documented hypotension (a systolic blood pressure of less than 90 mmHg) in the three days before, the day of or the 3 days after the positive blood culture sample was collected. Indicate the date in the MM/DD/YYYY format.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the baseline data forms or if you would like to remove this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to remove this form. ***Answer question 1.1 through 1.2***
- *"No"* if you do not have any notes that you would like to include or you do not want to remove this form.

1.1 ABSTRACTOR NOTES

Instructions: Use free text to input your notes.
Important: Do not enter any PHI (Protected Health Information)

1.2 DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: This question will default to "No". If you would like to exclude/remove this form you must manually change your answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude/remove this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would like to include this form in the data analysis. Note: This is the default.

1.2.1 ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM? IF YES, PLEASE ENTER THE REASON FOR FORM REMOVAL IN THE ABSTRACTOR NOTES SECTION ABOVE.

- *"Yes"* if you are sure you would like to exclude/remove this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you are sure you would like to include this form in the data analysis. Note: This is the default.

Midline Exchange

Midline Catheter Exchange

Instructions: For all questions in the database, "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question.

1. **DATE OF MIDLINE PLACEMENT**

Instructions: Indicate the date that the exchanged Midline (the Midline being exchanged) was placed. Enter the date in MM/DD/YYYY format.
Note: If there is more than one Midline exchange during the period of review, the date of initial Midline placement for the original exchanged Midline should be entered.

2. **THIS IS SUCCESSFUL MIDLINE#_____ON THIS DATE.**

Instructions: Review the medical record to determine which Midline is entered that corresponds to the date of index placement.
Note1: The default will always be one (1); however, if this is the second, third, fourth, or fifth Midline line inserted on the same date indicated above, you must manually change the entry using the drop down box.
Note2: Only enter Midlines that were entered into the HMS database. Example, if a patient at your institution had two Midlines inserted on the same date and only one of these resulted in entry into the Midline database, you would indicate this as Midline #1. If both Midlines were entered into the HMS database, the first would Midline #1 and the second would be Midline #2.
Select one of the following:

- *"1"* if the Midline indicated above is the first Midline inserted on the date indicated above. This is the default answer.
- *"2"* if the Midline indicated above is the second Midline inserted on the date indicated above.
- *"3"* if the Midline indicated above is the third Midline inserted on the date indicated above.

- *"4"* if the Midline indicated above is the fourth Midline inserted on the date indicated above.
- *"5"* if the Midline indicated above is the fifth Midline inserted on the date indicated above.

3. **DATE OF EXCHANGE**

Instructions: Review the medical record to determine the date that the peripherally inserted central catheter (Midline) of interest was exchanged. A Midline may be exchanged for the same or a different type of catheter (such as switching from a single lumen to a double lumen Midline or switching from a regular catheter to an antimicrobial-coated catheter). The existing Midline catheter MUST be replaced with a new Midline line using a guide wire, and the Midline line remains in the same location/vein as the original exchanged Midline to be considered an exchange.
Indicate the date of exchange in the MM/DD/YYYY format.
Note1: A line is considered an exchange only if it is documented as a successful exchange, and the exchange occurred over a Midline that was 'at some point' a fully-functioning Midline.
Note: Be sure to indicate the date of Midline exchange, and not the date the Midline was ordered for exchange.
EXCLUDE: Midline exchanged to a PICC, as conversion to a PICC is considered a "Midline removal."

4. **INDICATION FOR EXCHANGE**

Instructions: Review the medical record to determine the indication for Midline exchange (i.e. the documented reason for why the Midline was exchanged). There are nine (9) options for this question.
Select all that apply:

- *"Dislodgement"* if the medical record indicates that the Midline was exchanged because of dislodgement.
  INCLUDE: Any documentation that the Midline was exchanged due to dislodgement of the Midline. Examples include (but not limited to): the Midline being accidentally or partially pulled out by the patient or caregiver, was caught on the bed or IV pole, etc.
- *"Malfunction"* if the medical record indicates that the Midline was exchanged because of malfunction.
  INCLUDE: Any documentation that the Midline was exchanged due to malfunction. Examples include (but not limited to): catheter breakage, coiling, tear or leak, etc.

- *"Change in catheter style (eg. non-power/ power)"* if the medical record indicates that the Midline was exchanged for a change in catheter style (non-power/power).
  INCLUDE: Any documentation that the Midline was exchange to switch catheter style (i.e. power, non-power, etc).
- *"Change in the number of lumens"* if the medical record indicates that the Midline was exchanged for a change in the number of lumens.
  INCLUDE: Any documentation that the Midline was exchanged to change the number of lumens (i.e. single, double, triple, or quadruple). Examples include (but not limited to): switching from a single lumen Midline to a double lumen Midline, or switching from a multi-lumen Midline to a single lumen Midline prior to discharge.
- *"Catheter Migration"* if the medical record indicates that the Midline was exchanged due to catheter migration.
  INCLUDE: Any documentation that the Midline exchanged due to external movement of the catheter (e.g., increase in the amount of catheter exposed on skin, external movement of the catheter as measured by catheter length on skin etc.)
- *"Malposition"* if the medical record indicates that the Midline was exchanged due to malposition of the Midline catheter.
  INCLUDE: Any documentation that the Midline was exchanged due to malposition in the internal jugular vein, axillary or subclavian vein, high superior vena cava, etc.
- *"Occlusion"* if the medical record indicates that the Midline was exchanged due to irreversible occlusion of the Midline catheter.
  INCLUDE: Any documentation that the Midline was exchanged due to occlusion that was not reversible using medical approaches (e.g., flushing the catheter, use of tPA, etc.)
- *"Other"* if the medical record indicates that the Midline was exchanged for a reason not specified above.

  FOR OTHER, PLEASE SPECIFY

  Instructions: Free text the reason specified for Midline exchange.
- *"Unknown"* if the medical record is silent as to the indication/reason the Midline was exchanged.

5. **NUMBER OF ATTEMPTS TO PLACE THE MIDLINE**

Instructions: Review the medical record to determine the number of attempts (i.e. the number of tries) it took to exchange the Midline successfully. There are seven (7)

options for this question.
INCLUDE: Documented # of attempts, passes, insertions, etc.
EXCLUDE: Number of operators, number of adjustments.
Select one of the following:

- *"1"* if the medical record indicates that the Midline was exchanged successfully on the first attempt.
- *"2"* if the medical record indicates that the Midline was exchanged successfully on the second attempt.
- *"3"* if the medical record indicates that the Midline was exchanged successfully after a third attempt.
- *"4"* if the medical record indicates that the Midline was exchanged successfully after a fourth attempt.
- *"5+"* if the medical record indicates that the Midline was exchanged successfully on the fifth or greater attempt.
- *"Multiple"* if the medical record documentation states the Midline was placed successfully after "multiple" attempts.
- "*Unknown*" if the medical record is silent as to the number of attempts were taken to successfully perform the Midline exchange.

6. **WAS ULTRASOUND USED FOR INSERTION OF THE MIDLINE?**

Instructions: Review the medical record to determine if ultrasound guidance for peripheral venous access was used to exchange the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates ultrasound guidance was to place the exchanged Midline.
- *"No"* if the medical record does not indicate ultrasound guidance was used to place the exchanged Midline.
- "*Unknown*" if the medical record is silent as to whether ultrasound guidance was used to place the exchanged Midline

7. **WAS LIDOCAINE USED FOR INSERTION OF THE MIDLINE?**

Instructions: Review the medical record to determine if lidocaine was used as the local anesthetic to place the exchanged Midline. If lidocaine was not used, review the medical record to determine if another local anesthetic was to place the exchanged Midline.
Select one of the following:

- *"Yes"* if the medical record indicates lidocaine was used to place the exchanged Midline.

- *"No"* if the medical record does not indicate lidocaine nor another local anesthetic was used to place exchanged Midline.
- "*Unknown*" if the medical record is silent as to whether lidocaine or another local anesthetic was used to place the exchanged Midline.
- "*Other Analgesic*" if the medical record indicates lidocaine was not used as the local analgesic to place the exchanged Midline, however a different local anesthetic was used to place the exchanged Midline.

    FOR OTHER ANALGESIC, PLEASE SPECIFY.
    Instructions: Free text the local anesthetic used to place the exchanged Midline.

8. **WERE FULL DRAPES USED FOR INSERTION OF THE MIDLINE (DRAPES AROUND THE INSERTION SITE VERSUS ALL OVER THE BODY)?**

Instructions: Review the medical record to determine if full body drapes, coverage of the patient from chin to toe, were used for insertion of the exchanged Midline.
Select one of the following:

- *"Yes"* if the medical indicates full body drapes were used for placement of the exchanged Midline.
  INCLUDE: Examples include (but not limited to): documentation of max barrier drapes or full body fenestrated drapes used at time of Midline placement.
- *"No"* if the medical record does not indicate full body drapes were used to place the exchanged Midline. For example, select "No" if the inserter used only a drape over the insertion site at the time of Midline placement.
- "*Unknown*" if the medical record is silent as to whether full body drapes were used for placement of the exchanged Midline.

9. **SUCCESSFULLY INSERTED BY**

Instructions: Review the medical record to determine the classification (i.e., type of professional) of the individual that exchanged the Midline. This piece of information is likely to be found on a Midline procedure note.
Select one of the following:

- *"Vascular Access Nurse"* if the medical record indicates that the exchanged Midline was inserted by a vascular access nurse.
  INCLUDE: Vascular Access Nurse, PICC certified nurse, PICC Registered Nurse, Vascular Nurse, Vascular Access-Board Certified Nurse (VA-BC), Certified Registered Nurse Infusion (CRNI), etc.
- *"Rapid Response Nurse"* if the medical record indicates that the exchanged Midline was inserted by a rapid response nurse.

INCLUDE: Rapid Response Nurse, Nurse trained to be on the Rapid Response team.

- *"Interventional Radiologist"* if the medical record indicates that the exchanged Midline was inserted by an interventional radiologist.
  INCLUDE: Interventional Radiologist (IR), Vascular Radiologist, etc.
- *"Physician"* if the medical record indicates that the exchanged Midline was inserted by a physician.
  INCLUDE: Medical Doctor (MD), Doctor of Osteopathic Medicine (DO), etc.
- *"Advanced Practice Professional (Non-IR)"* if the medical record indicates that the exchanged Midline was inserted by an advanced practice professional that is not part of interventional radiology.
  INCLUDE: Nurse Practitioner (NP), Clinical Nurse Specialist (CNS), Certified Nurse Midwife (CNM), Certified Registered Nurse Anesthetist (CRNA), or Physician Assistant (PA or PA-C), etc.
- *"Advanced Practice Professional (IR)"* if the medical record indicates that the exchanged Midline was inserted by an advanced practice professional that is part of interventional radiology.
  INCLUDE: Nurse Practitioner (NP), Clinical Nurse Specialist (CNS), Certified Nurse Midwife (CNM), Certified Registered Nurse Anesthetist (CRNA), or Physician Assistant (PA or PA-C), etc.
- *"Other"* if the medical record indicates that the exchanged Midline was inserted by someone with a classification not listed above.
- *"Unknown"* if the medical record is silent as to the classification of the individual who inserted the exchanged Midline.

10. **WAS SEDATION USED FOR THE PLACEMENT OF THE MIDLINE?**

Instruction: Review the medical record to determine if sedation was used for the placement of the exchanged Midline.
INLCUDE: Any explicit statement stating that sedation was used for the placement of the Midline. Documentation of anesthesia involvement related to systemic sedation rather than local anesthesia used for the placement of the Midline.
Select one of the following:

- *"Yes"* if the medical record indicates that sedation was used for the placement of the exchanged Midline.
- *"No"* if the medical record indicates that sedation was not used for the placement of the exchanged Midline.
- *"Unknown"* if the medical record is silent as to whether or not sedation was used for the placement of the exchanged Midline.

11. **CATHETER STYLE**

Instructions: Review the medical record to determine the style of Midline catheter placed. The style of catheter indicates whether or not the Midline is conventional/standard, or if it can be used for power injection (i.e., contrast dye injection, etc.). This piece of information is likely to be found on a Midline procedure note.

Select one of the following:

- *"Non-Power Midline"* if the medical record indicates the exchanged Midline is a non-power Midline.
- *"Power Midline"* if the medical record indicates the exchanged Midline is a Power Midline or a Power Injectable catheter.
  INCLUDE: Examples include (but not limited to): PowerMidline, if the Midline can be used for CT injections
- *"Unknown"* if the medical record is silent as to the style of catheter placed.

12. **LINE THICKNESS/ GAUGE (FR)**

Instructions: Review the medical record to determine the thickness/ French (F, FR, Fr.) size of the Midline catheter placed. The French catheter scale is commonly used to measure the size and external diameter of catheter. This piece of information is likely to be found on a Midline procedure note.

Select one of the following:

- *"3"* if the medical record indicates the thickness of the exchanged Midline is 3 FR.
  INCLUDE: 3 F, 3 Fr., 3 FR, 3 French
- *"4"* if the medical record indicates the thickness of the exchanged Midline is 4 FR.
  INCLUDE: 4 F, 4 Fr., 4 FR, 4 French
- *"4.5"* if the medical record indicates the thickness of the exchanged Midline is 4.5 FR. INCLUDE: 4.5 F, 4.5 Fr., 4.5 FR, 4.5 French
- *"5"* if the medical record indicates the thickness of the exchanged Midline is 5 FR.
  INCLUDE: 5 F, 5 Fr., 5 FR, 5 French
- *"5.5"* if the medical record indicates the thickness of the exchanged Midline is 5.5 FR. INCLUDE: 5.5 F, 5.5 Fr., 5.5 FR, 5.5 French
- *"6"* if the medical record indicates the thickness of the exchanged Midline is 6 FR.
  INCLUDE: 6 F, 6 Fr., 6 FR, 6 French
- *"7"* if the medical record indicates the thickness of the exchanged Midline is 7 FR.
  INCLUDE: 7 F, 7 Fr., 7 FR, 7 French

- *"16"* if the medical record indicates the thickness of the exchanged Midline is 16G (16 gauge).
- *"18"* if the medical record indicates the thickness of the exchanged Midline is 18G (18 gauge).
- *"20"* if the medical record indicates the thickness of the exchanged Midline is 20G (20 gauge).
- *"22"* if the medical record indicates the thickness of the exchanged Midline is 22G (22 gauge).
- *"Unknown"* if the medical record is silent as to the thickness of the exchanged Midline.
- *"Other"* if the medical record indicates a thickness of the exchanged Midline that is not listed above.

    FOR OTHER, PLEASE SPECIFY LINE THICKNESS/GAUGE (FR).
    Instructions: Free text the line thickness/gauge (FR) of the exchanged Midline.

13. **LUMENS**

Instructions: Review the medical record to determine the number of lumens the exchanged Midline has. The term lumen refers to the number of openings the line has, or IV access lines. Midlines can have one, two, three, or four lumens.
Select one of the following:

- *"Single"* if the medical record indicates that the exchanged Midline has one (1) lumen or a single lumen.
- *"Double"* if the medical record indicates that the exchanged Midline has two (2) lumens or is double lumen.
- *"Triple"* if the medical record indicates that the exchanged Midline has three (3) lumens or is triple lumen.
- *"Quadruple"* if the medical record indicates that the exchanged Midline has four (4) lumens or is Quad lumen.
- *"Unknown"* if the medical record is silent as the number of lumens the exchanged Midline has.

14. **TOTAL MIDLINE LENGTH (CM)**

Instructions: Review the medical record to determine the total length of the Midline in centimeters (CM). The total Midline length refers to the total length of the line inserted. Midline devices are typically between 6 to 25 cm in length. Indicate the total Midline length as a number between 0 - 40 cm. This piece of information is

likely to be found on a Midline procedure note. If the total Midline length is not documented in the medical record, indicate the number 0.

15. **WAS THE MIDLINE CATHETER CUT?**
Instructions: Review the medical record to determine if the exchanged Midline catheter was cut.
Select one of the following:
- *"Yes"* if the medical record indicates the exchanged Midline catheter was cut.
- *"No"* if the medical record does not indicate the exchanged Midline catheter was cut.
- "*Unknown*" if the medical record is silent as to whether the exchanged Midline catheter was cut.

16. **IS THE DEVICE MATERIAL DOCUMENTED FOR THE EXCHANGED MIDLINE?**
Instructions: Review the medical record to determine if the device (catheter) material is documented for the exchanged Midline. This piece of information is likely to be found on the Midline procedure note or in the image section of the EMR there may be a scanned document of the Midline packaging which indicates the manufacturer, size, etc.
Select all that apply:
- *"Endexo"* if the medical record documents endexo as a device material of the exchanged Midline.
  INCLUDE: Angiodynamics BioFlo Midline
- *"Non-Polyurethane"* if the medical record documents non-polyurethane as a catheter material of the exchanged Midline.
- *"Polyurethane"* if the medical record documents polyurethane as a catheter material of the exchanged Midline.
- *"Silicone"* if the medical record documents silicone as a catheter material of the exchanged Midline.
- *"Other"* if the medical record documents a catheter material not listed above as a catheter material of the exchanged Midline.
- *"Unknown"* if the medical record is silent as to the type of catheter material for the exchanged Midline.

    FOR OTHER, PLEASE SPECIFY THE DEVICE MATERIAL
    Instructions: Free text the catheter material for the exchanged Midline.

17. **MANUFACTURER**

Instructions: Review the medical record to determine the manufacturer of the exchanged Midline. This piece of information is likely to be found on the Midline procedure note or in the image section of the EMR there may be a scanned document of the Midline packaging which indicates the manufacturer, etc.
Select one of the following:

- "*Access Scientific"* if the medical record indicates that the exchanged Midline is manufactured by Access Scientific. Select if documentation states a model number or name that can be directly associated with an Access Scientific product (i.e., Powerwand EDC (Extended Dwell Catheter), Powerwand XL, Powerwand AST).
- *"Angiodynamics"* if the medical record indicates that the exchanged Midline is manufactured by Angiodynamics. Select if documentation states a model number or name that can be directly associated with an Angiodynamics product (i.e., BioFlo Midline, BioFlo PICC cut to Midline length).
- "*BARD/BARD Access"* if the medical record indicates that the exchanged Midline is manufactured by BARD or BARD Access. Select if documentation states a model number of name that can be directly associated with a BARD or BARD Access product. (i.e., PowerGlide Pro catheter, PowerMidline Catheter, PowerGlide ST Midline, PowerGlide Midline, BARD Poly Midline Catheters, Groshong Midline Cathter, Per-Q-Cath Midline Catheter, PowerPICC cut to Midline length, PowerPICC Provena cut to Midline length, PowerPICC Solo2 cut to Midline length).
- *"Cook"* if the medical record indicates that the exchanged Midline is manufactured by Cook. Select if documentation states a model number or name that can be directly associated with a Cook product.
- *"MedComp"* if the medical record indicates that the exchanged Midline is manufactured by MedComp. Select if documentation states a model number or name that can be directly associated with a MedComp product (i.e., Arch-Flo Midline, CT Midline, MedComp Midline)
- *"Navilyst"* if the medical record indicates that the exchanged Midline is manufactured by Navilyst. Select if documentation states a model number or name that can be directly associated with a Navilyst product (i.e., Xcela Power Injectable PICC cut to Midline length).
- "*Teleflex*" if the medical record indicates that the exchanged Midline is manufactured by Teleflex. Select if documentation states a model number or name that can be directly associated with a Teleflex product (i.e., Arrow Midline, Arrowg+ard Blue Advance Midline, Endurance Extended Dwell Peripheral Catheter, Arrow PICC with Chlorag+ard Tech ology cut to Midline length)

- "*Other*" if the medical record indicates that the exchanged Midline is manufactured by a company not specified above. Please reach out to the HMS Coordinating Center prior to making this selection.

  FOR OTHER, SPECIFY MANUFACTURER

  Instructions: Free text the manufacturer name.
- "*Unknown*" if the medical record is silent as to the manufacturer of the Midline.

18. **WHAT IS THE DOCUMENTED DEVICE TYPE/NAME FOR THE EXCHANGED MIDLINE?**

Instructions: Review the medical record to determine the device type or name of the exchanged Midline.

Select one of the following:

- *"Access Scientific Powerwand EDC (Extended Dwell Catheter)"* if the medical record indicates that the exchanged Midline is a Powerwand EDC or Powerwand Extended Dwell Catheter.
- *"Access Scientific Powerwand XL"* if the medical record indicates that the exchanged Midline is a Powerwand XL.
- *"Access Scientific Powerwand AST"* if the medical record indicates that the exchanged Midline is a Powerwand AST.
- *"Angiodynamics/Navilyst BioFlo Midline"* if the medical record indicates that the exchanged Midline is a BioFlo Midline.
- *"BARD PowerGlide Pro Midline Catheter"* if the medical record indicates that the exchanged Midline is a PowerGlide Pro Midline Catheter.
- *"BARD PowerMidline Catheter"* if the medical record indicates that the exchanged Midline is a PowerMidline Catheter.
- *"BARD PowerGlide ST Midline Catheter"* if the medical record indicates that the exchanged Midline is a PowerGlide ST Midline Catheter.
- *"BARD PowerGlide Midine Catheter"* if the medical record indicates that the exchanged Midline is a PowerGlide Midline Catheter.
- *"BARD Poly Midline Catheters*" if the medical record indicates that the exchanged Midline is a Poly Midline Catheter.
- *"BARD Groshong Midline Catheter"* if the medical record indicates that the exchanged Midline is a Groshong Midline Catheter.
- *"BARD Per-Q-Cath Midline Catheter"* if the medical record indicates that the exchanged Midline is a Per-Q-Cath Midline Catheter.
- *"BARD Provena Midline Catheter"* if the medical record indicates that the exchanged Midline is a Provena Midline Catheter.

- *"MedComp - Arch-Flo"* if the medical record indicates that the exchanged Midline is an Arch-Flo.
- *"MedComp - CT Midline"* if the medical record indicates that the exchanged Midline is a MedComp CT Midline.
- *"MedComp - Midlin*e" if the medical record indicates that the exchanged Midline is a MedComp Midline.
- *"Teleflex - Arrow Midline"* if the medical record indicates that the exchanged Midline is an Arrow Midline.
- *"Teleflex - Arrowg+ard Blue Advance Midlin*e" if the medical record indicates that the exchanged Midline is an Arrowg+ard Blue Advance Midline.
- *"Teleflex - Arrow Endurance Extended Dwell Peripheral Catheter System"* if the medical record indicates that the exchanged Midline is an Arrow Endurance Extended Dwell Peripheral Catheter.
- *"PICC Cut to Midline: Angiodynamics - BioFlo PICC Catheter"* if the medical record indicates that the exchanged Midline is a BioFlo PICC cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC Catheter"* if the medical record indicates that the exchanged Midline is a PowerPICC Catheter cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC Provena Catheter"* if the medical record indicates that the exchanged Midline is a PowerPICC Provena Catheter cut to Midline length.
- *"PICC Cut to Midline: BARD- PowerPICC SOLO2 Catheter*" if the medical record indicates that the exchanged Midline is a PowerPICC SOLO2 Catheter cut to Midline length.
- *"PICC Cut to Midline: Navilyst - Xcela Power Injectable PICC*" if the medical record indicates that the exchanged Midline is an Xcela Power Injectable PICC cut to Midline length.
- *"PICC Cut to Midline: Teleflex – Arrow PICC with Chlorag+ard Technology with Pressure Injectable Catheter with Blue FlexTip"* if the medical record indicates that the exchanged Midline is an Arrow PICC with Chlorag+ard Technology with Pressure Injectable Catheter with Blue Flex Tip cut to Midline length.
- *"Unknown"* if the medical record is silent or the device type/name for the exchanged Midline is unknown.
- *"Other* if the medical record indicates a device type/name for the exchanged Midline is not listed above. (Note – Contact the Coordinating Center for approval before using this option).

IF OTHER, PLEASE SPECIFY

Instructions: Free text the device type/name for the exchanged Midline. Contact the Coordinating Center for approval before entering a device name.
EXCLUDE: product lot numbers
INCLUDE: BARD AccuCath Ace

19. **WAS A CATHETER TO VEIN RATIO DOCUMENTED?**

Instructions: Review the medical record to determine if a catheter to vein ratio was documented during the Midline exchange. Some examples include: Minimum vein diameter 2 x's the catheter size or 3x's the catheter size.
Note: If the only notation of catheter to vein ratio that you see is "line occupies less than X % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]): Select "No" to the question "Was a catheter to vein ratio documented?"- IF you can see a vein size documented, AND there is either a line thickness (fr) or catheter size (mm) documented.
Select "Yes" to the question "Was a catheter to vein ratio documented?"- IF you cannot see a vein size documented (regardless of line thickness or catheter size documentation); select "Other" to the question "What was the catheter to vein ratio?" and capture the documentation you have in the free text box.
Select one of the following:

- *"Yes"* if the medical record indicates a catheter to vein ratio was measured.
  Answer question 19.1
  INCLUDE: If the only notation of catheter to vein ratio is "line occupies less than *X* % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]) and you **cannot** see a vein size documented.
  INCLUDE: Statement of "Percentage of venous occlusion by catheter"
- *"No"* if the medical record does not indicate a catheter to vein ratio was measured.
  INCLUDE: If the only notation of catheter to vein ratio is "line occupies less than *X* % of the vessel" (rather than a range [40-44%] or a whole percentage [33%]) and you **can** see a vein size documented, **AND** there is either a line thickness (fr/gauge) or catheter size (mm) documented.
- *"Unknown"* if the medical record is silent as to whether a catheter to vein ratio was measured.

19.1. IF YES, WHAT WAS THE CATHETER TO VEIN RATIO?

Instructions: Review the medical record to determine the catheter to vein ratio.
Select one of the following:

Note: If the catheter to vein percentage is reported as a ratio, please convert it to a percentage and make the appropriate corresponding selection. (Example: 1:2 ratio corresponds to >= 50%, 1:3 ratio corresponds to 30-34%)

- *"< 20%"* if the medical record indicates < 20% as the catheter to vein ratio.
- *"20-24%"* if the medical record indicates 20-24% as the catheter to vein ratio.
- *"25-29%"* if the medical record indicates 25-29% as the catheter to vein ratio.
- *"30-34%"* if the medical record indicates 30-34% as the catheter to vein ratio.
- *"35-39%"* if the medical record indicates 35-39% as the catheter to vein ratio.
- *"40-44%"* if the medical record indicates 40-44% as the catheter to vein ratio.
- *45-49%"* if the medical record indicates 45-49% as the catheter to vein ratio.
- *">= 50%"* if the medical record indicates >= 50% as the catheter to vein ratio.
- *"Unknown"* if the catheter to vein ratio is unknown.
- *"Other"* if the medical record indicates a catheter to vein ratio that is not one listed above. (Please contact the coordinating center before using the selection "other" to document the catheter to vein ratio.)

FOR OTHER, SPECIFY CATHETER TO VEIN RATIO

Instructions: Free text the catheter to vein ratio.

Note: If the only notation of catheter to vein ratio that you see is "line occupies less than X % of the vessel", and you cannot see a vein size documented (regardless of line thickness or catheter size documentation), select "Other" to the question "What was the catheter to vein ratio?" and capture the documentation you have in the free text box.

20. **IS THERE DOCUMENTATION OF CATHETER SIZE IN MM?**

Instructions: Review the medical record to determine if there is documentation of catheter size in mm for the exchanged Midline.

Select one of the following:

- *"Yes"* if the medical record indicates a catheter size in mm was documented.

  FOR YES, PLEASE SPECIFY CATHETER SIZE IN MM

  Instructions: Free text the catheter size in mm.
- *"No"* if the medical record indicates a catheter size in mm was not documented.
- *"Unknown"* if the medical record is silent as to whether a catheter size in mm was documented.

21. **IS THERE DOCUMENTATION OF VEIN SIZE IN MM?**

Instructions: Review the medical record to determine if there is documentation of vein size in mm for the exchanged Midline.

Select one of the following:

- *"Yes"* if the medical record indicates a vein size in mm was documented.

  FOR YES, PLEASE SPECIFY VEIN SIZE IN MM

  Instructions: Free text the vein size in mm.
- *"No"* if the medical record indicates a vein size in mm was not documented.
- *"Unknown"* if the medical record is silent as to whether a vein size in mm was documented.

22. **ON INITIAL PLACEMENT, WAS THE LOCATION OF THE MIDLINE TIP CONFIRMED?**

Instructions: Review the medical record to determine the catheter location of the Midline tip was confirmed during the Midline exchange.

Select one of the following:

- *"Yes"* if the medical record indicates that the location of the Midline tip was confirmed. ***Answer question 22.1.***

  INCLUDE: Documentation that the position of the Midline tip was confirmed, documentation that the Midline was placed with ultrasound

  EXCLUDE: Documentation of blood return only
- *"No"* if the medical record indicates that the location of the Midline tip was confirmed.
- *"Unknown"* if the medical record is silent as to whether the location of the Midline tip was confirmed.

22.1 IF YES, CONFIRMATION TYPE

Instructions: Indicate the method used to confirm the Midline tip location.

Check all that apply:

- *"X-ray"* if the medical record indicates that the Midline tip was checked on initial placement via x-ray.

  INCLUDE: X-ray, Radiograph
- *"Fluoroscopy"* if the medical record indicates that the Midline tip was checked on initial placement via fluoroscopy.

  INCLUDE: Fluoroscopy, Fluoroscope
- *"Ultrasound"* if the medical record indicates that the Midline tip was checked on initial placement via ultrasound.

  INCLUDE: Midline placement with ultrasound
- *"Physical Assessment (Physical Marking)"* if the medical record indicates that the Midline tip was checked on initial placement via physical assessment or physical marking.

- *"Other* if the medical record indicates that the Midline tip was checked on initial placement via a method that is not listed above.

  FOR OTHER, SPECIFY CONFIRMATION TYPE

  Instructions: Free text the method of midline tip confirmation.
  EXCLUDE: only documentation of blood return
- "*Unknown*" if the medical record is silent as to the type of method that was used to check the Midline tip location.

23. **WHAT IS THE DOCUMENTED LOCATION OF THE MIDLINE TIP?**

Instructions: Indicate the documented location of the exchanged Midline tip.
Choose one of the following:

- *"Basilic Vein"* if the medical record indicates that the Midline terminates in the Basilic Vein.
- *"Brachial Vein"* if the medical record indicates that the Midline terminates in the Brachial Vein.
- *"Cephalic Vein"* if the medical record indicates that the Midline terminates in the Cephalic Vein.
- *"Distal to the Axilla"* if the medical record indicates that the Midline terminates Distal to the Axilla.
- *"Axillary Vein/Axilla"* if the medical record indicates that the Midline terminates in the Axillary Vein or at the Axilla.
- *"Subclavian Vein"* if the medical record indicates that the Midline terminates in the Subclavian Vein.
- *"Other"* if the medical record indicates that the Midline terminates in a vein not listed.

  IF OTHER, SPECIFY MIDLINE TIP LOCATION

  Instructions: Free text the specified location of the midline tip.
- "*Unknown"* if the medical record is silent regarding the vein in which the Midline terminates.

24. **WAS THE REMOVED MIDLINE TIP SENT FOR CULTURE?**

Instructions: Review the medical record to determine if the removed Midline tip (i.e. the tip of the Midline that was removed during the exchange) was sent for microbiological culture. This information is likely to be found in the physician progress notes, vascular nursing notes, and/or laboratory (i.e., microbiology) information. There are three (3) options for this question.
INCLUDE: Documentation and/or order for the Midline tip to be sent for culture.
Laboratory results of the Midline tip (i.e., of the Midline removed during the

exchange) culture.
Select one of the following:

- *"Yes"* if the medical record indicates that the patient had their Midline tip sent for culture. ***Answer question 24.1***
- *"No"* if the medical record does not indicate that the patient had their Midline tip sent for microbiological culture.
- *"Unknown"* if the medical record was silent as to whether the patient had their Midline tip cultured.

24.1. WAS THE REMOVED MIDLINE TIP CULTURE RESULT POSITIVE?

Instructions: Review the medical record to determine if the removed Midline tip culture was positive (i.e., the culture was positive for pathogen growth) during the period of review.

INCLUDE: Physician documentation of a positive culture of the removed Midline tip, or laboratory result that indicates that the removed Midline tip was positive for a pathogen.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a positive Midline tip culture result. *Answer questions* ***24.1.1 through 24.1.3***
- *"No"* if the medical record does not indicate that the patient had a positive Midline tip culture result.
- *"Unknown"* if the medical record was silent as to whether the patient had a positive Midline tip culture result.

24.1.1. POSITIVE MIDLINE TIP CULTURE-DATE OF CULTURE

Instructions: Review the medical record to determine the date of the first positive Midline tip culture (i.e., date the culture was drawn). Indicate the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.

24.1.2. POSITIVE MIDLINE TIP CULTURE-PATHOGEN IDENTIFIED

Instructions: Review the medical record to determine the pathogen identified on the Midline tip culture. Pathogens are classified by genus and species. The genus and species of the pathogen will likely be found on the laboratory report. Indicate the genus, which is the broad or the generic name. Once genus is selected, you will be prompted to indicate the species.

Select one of the following:

- *"Achromobacter"*
- *"Acinetobacter"*

- *"Actinomyces"*
- *"Aerobacter"*
- *"Aerococcus"*
- *"Aeromonas"*
- *"Alcaligenes"*
- *"Alpha-hemolytic Streptococcus, not S. pneumoniae"*
- *"Arachnia"*
- *"Arcanobacterium"*
- *"Arthrobacter"*
- *"Aspergillus"*
- *"Bacillus"*
- *"Bacterionema"*
- *"Bacteroides"*
- *"Bordetella"*
- *"Branhamella"*
- *"Brevibacillus"*
- *"Brevibacterium"*
- *"Burkholderia"*
- *"Candida"* INCLUDE: Yeast and Torulopsis Glabrata
- *"Citrobacter"*
- *"Clostridium"*
- *"Corynebacterium"*
- *"Coryneform"*
- *"Cupriavidus*
- *"Dermabacter"*
- *"Dermacoccus"*
- *"Diptherioids"*
- *"Elizabethkingia"*
- *"Enterobacter"*
- *"Enterococcus"*
- *"Escherichia"*
- *"Francisella"*
- *"Friedlander's"*
- *"Fusobacterium"*
- *"Gordonia"*
- *"Granulicatella"*
- *"Haemophilus"*
- *"Histoplasma"*

- *“Klebsiella”*
- *“Kluyvera”*
- *“Kocuria”*
- *“Legionella”*
- *“Levinea”*
- *“Listeria”*
- *“Microbacterium”*
- *“Micrococcus”*
- *“Monilia”*
- *“Moraxella”*
- *“Morganella”*
- *“Neisseria”*
- *“Nocardia”*
- *“Oidium”*
- *“Paeni”*
- *“Pantoea”*
- *“Pasteurella”*
- *“Pediococcus”*
- *“Peptostreptococcus”*
- *“Pneumocystitis”*
- *“Prevotella”*
- *“Propionibacterium”*
- *“Propioniferax”*
- *“Providencia”*
- *“Proteus”*
- *“Pseudomonas”*
- *“Raoultella”*
- *“Rhodococcus”*
- *“Rothia”*
- *“Rummeliibacillus”*
- *“Salmonella”*
- *“Sarcina”*
- *“Scedosporium”*
- *“Serratia”*
- *“Solibacillus”*
- *“Stapyhlococcus ”*
- *“Stenotrophomonas*
- *“Streptococcus”*

- *"Streptococcus species"*
- *"Trueparella"*
- *"Tsukamurella"*
- *"Tufted Mitior"*
- *"Turicella"*
- *"Viridans Group Streptococci"*
- *"Yersina"*
- *"Bacteria Not Specified"*
- *"Other (See the CDC's complete list in the knowledge base)"*

  FOR OTHER, PLEASE SPECIFY

  Instructions: Do not use the selection "Other" until you have contacted the coordinating center for guidance. Use free text to indicate "other".

  INCLUDE: Streptococcus Intermedius, Gemella Morbillorum

24.1.3. FOR THE POSITIVE MIDLINE TIP CULTURE, WAS THERE AN ADDITIONAL PATHOGEN IDENTIFIED?

Instructions: Review the medical record to determine if an additional pathogen was identified on the positive midline tip culture.

Select one of the following:

- *"Yes"* if the medical record indicates that the patient had a second pathogen identified within the Midline tip culture. ***Answer question 24.1.3.1***
- *"No"* if the medical record does not indicate that the patient had a second pathogen identified within the Midline tip culture.
- *"Unknown"* if the medical record is silent as to whether the patient had a second pathogen identified within the Midline tip culture.

24.1.3.1. POSITIVE MIDLINE TIP CULTURE-PATHOGEN (#2) IDENTIFIED

Instructions: Review the medical record to determine if the patient had a second pathogen identified within the Midline tip culture. Repeat the steps outlined above for up to five pathogens.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the baseline data forms or if you would like to remove this form. Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to remove this form. ***Answer question 1.1 through 1.2***
- *"No"* if you do not have any notes that you would like to include or you do not want to remove this form.

1.1 ABSTRACTOR NOTES

Instructions: Use free text to input your notes.
Important: Do not enter any PHI (Protected Health Information)

1.2 DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: This question will default to "No". If you would like to exclude/remove this form you must manually change your answer to "Yes". Select one of the following:

- *"Yes"* if you would like to exclude/remove this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would like to include this form in the data analysis. Note: This is the default.

1.2.1 ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM? IF YES, PLEASE ENTER THE REASON FOR FORM REMOVAL IN THE ABSTRACTOR NOTES SECTION ABOVE.

- *"Yes"* if you are sure you would like to exclude/remove this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you are sure you would like to include this form in the data analysis. Note: This is the default.

Death (Midline)

Death Form

Instructions: This form should only be completed if the patient died during your time frame of abstraction (prior to Midline removal or on the day of Midline removal). For all questions in the database "No Answer" is the default selection. This field will be considered a blank field and is interpreted as missing data. Be sure to select the appropriate answer for each question. Note: This is a repeating form in the event that the patient has multiple lines in place at the time of death.

1. **DATE MIDLINE PLACEMENT**

Instructions: Indicate the date that the Midline of interest was placed. Indicate the date in the MM/DD/YYYY format.

2. **THIS IS SUCCESSFUL MIDLINE #_____ON THIS DATE.**

Instructions: Review the medical record to determine which Midline is entered that corresponds to the date of index placement.

Note 1: The default will always be one; however, if this is the second Midline line inserted on the same date indicated above then you must manually change the entry using the drop down box.

Note 2: Only enter Midline lines that were entered into the HMS database. Example, if an individual at your institution had two Midlines inserted on the same date and only one of these resulted in entry into the Midline database you would indicate this as Midline #1. If both Midline were entered into the HMS database, then the first would Midline #1 and the second would be Midline #2.

Select one of the following:

- *"1"* if the Midline indicated above is the first Midline inserted on the date indicated above. Note: This is the default answer.
- *"2"* if the Midline indicated above is the second Midline inserted on the date indicated above.

- *"3"* if the Midline indicated above is the third Midline inserted on the date indicated above.
- *"4"* if the Midline indicated above is the fourth Midline inserted on the date indicated above.
- *"5"* if the Midline indicated above is the fifth Midline inserted on the date indicated above.

3. **INDICATE THE DATE OF DEATH**

Instructions: Review the medical record to determine the date of death. Record the date in the MM/DD/YYYY format. Use 01/01/1900 if the date is unknown.
Note: If at all possible enter a date of death even if you are unable to determine the actual confirmed death date.

4. **IS THE DATE…**

Instructions: Indicate whether the date of death is estimated/approximated or confirmed based on the information provided in the medical record and/or phone call.
Select one of the following:

- *"Estimated"* if the medical record indicates that the patient is deceased however, you are unable to confirm the exact date. The date entered is therefore an estimated date. For example, if during the phone call a patient a family member indicates the patient died about 2 weeks ago you can therefore estimate a date of death.
- *"Confirmed"* if the medical record indicates the exact date of death than this date is therefore confirmed.

5. **INDICATE THE CAUSE OF DEATH**

Instructions: Review the medical record to determine the cause of death. In the absence of a specific cause of death documented, a diagnosis from the last progress note/discharge summary may be used to answer this question.
Select all that apply:

- *"VTE"* if the medical record indicates that the cause of death was venous thromboembolism (VTE). ***Answer question 5.1***
  INCLUDE: Venous thromboembolism (VTE), deep vein thrombosis (DVT), pulmonary embolism (PE)
- *"CRBSI"* if the medical record indicates that the cause of death was catheter related blood stream infection (CRBSI).
  INCLUDE: Central line associated blood stream infection (CLABSI)

- *"Sepsis (or Suspected Sepsis)"* if the medical record indicates that the cause of death was sepsis or suspected sepsis.
- *"Cardiac Arrest"* if the medical record indicates that the cause of death was cardiac arrest.
- *"Respiratory Failure"* if the medical record indicates the cause of death was respiratory failure.
  INCLUDE: reason for death documented as "terminal wean"
- *"Cancer"* if the medical record indicates the cause of death was cancer.
- *"Other"* if the medical record indicates that the cause of death was due to something other than VTE or CLABSI.
  FOR OTHER, PLEASE SPECIFY.
  Instructions: Free text the cause of death.
- "*Unknown*" if the medical record is silent as to the cause of death.

5.1 TYPE OF VTE
Instructions: Review the medical record to determine the type of venous thromboembolism (VTE) that was the cause of death.
Select all that apply:

- *"DVT"* if the medical record indicates that the cause of death was deep vein thrombosis (DVT)
- *"PE"* if the medical record indicates that the cause of death was pulmonary embolism (PE)
- *"VTE (Not Specified)"* if the medical record indicates that the cause of death was a venous thromboembolism but was not specific on type.

Abstractor Notes

1. **DO YOU HAVE ANY NOTES OR DO YOU WANT TO EXCLUDE A FORM?**

Instructions: Indicate whether you have any notes that you would like to include regarding any of the baseline data forms or if you would like to remove this form.
Select one of the following:

- *"Yes"* if you have notes that you would like to include or you would like to remove this form. ***Answer question 1.1 through 1.2***

- *"No"* if you do not have any notes that you would like to include or you do not want to remove this form.

1.1 ABSTRACTOR NOTES

Instructions: Use free text to input your notes.
Important: Do not enter any PHI (Protected Health Information)

1.2 DO YOU WANT TO EXCLUDE THIS FORM?

Instructions: This question will default to "No". If you would like to exclude/remove this form you must manually change your answer to "Yes".
Select one of the following:

- *"Yes"* if you would like to exclude/remove this form from data analysis. ***Answer question 1.2.1***
- *"No"* if you would like to include this form in the data analysis. Note: This is the default.

1.2.1 ARE YOU SURE YOU WANT TO EXCLUDE THIS FORM? IF YES, PLEASE ENTER THE REASON FOR FORM REMOVAL IN THE ABSTRACTOR NOTES SECTION ABOVE.

- *"Yes"* if you are sure you would like to exclude/remove this form from data analysis. Enter the reason for form removal in the abstractor notes section above.
- *"No"* if you are sure you would like to include this form in the data analysis. Note: This is the default.