NHSN CRITERIA: UNDERSTANDING THE MICROBIOLOGY CRITERIA

Sharon Williamson, MT(ASCP)SM, CIC

10/22/2013

Overview

- General Microbiology for the NHSN user
  - A Microbiologist's Advantage
  - Knowing your Micro Lab
  - Determining Sameness of Organisms

- Microbiology Criteria related to the Big 6
  - CLABSI
  - CAUTI
  - SSI
  - VAE
  - LabID C diff
  - LabID MRSA Bacteremia

What is a Microbiologist's Primary Advantage?

Clinical Objectivity

Keeping it Objective

- Surveillance definitions:
  - Population based
  - Minimal use of clinical judgment
  - Maximize potential for consistent application
  - Optimizes inter-rater reliability and data quality

- Surveillance definitions are not:
  - Patient based
  - Meant to diagnose or treat patients

Knowing your Micro Lab

- What is a contaminated urine culture?
  - Does it depend on how many types of organisms? >2, >3
  - Does it depend on colony count?
  - Does it depend on the organism? Staph, corynebacterium, yeast?
  - Do they report mixed flora and what does that mean?
- What is a contaminated blood culture?
  - Coag negative Staph, Bacillus, Corynebacterium, alpha Strep?
  - 1 out of 2 sets? 2 out of 4 bottles? I bottle from each draw?
  - Drawn in 24 hours? Drawn in 1 calendar day?

Knowing your Micro Lab

- Do they routinely screen respiratory specimens for adequacy?
  - Always report WBC and epithelial cells?
  - How do they quantitative from a gram stain? Low power field? High power field?
  - If they report 1+, 2+ or few, many – how does that correlate to the actual number seen?
- How do their "semi-quantitative" respiratory cultures compare to quantitative ranges?
- What synonyms do they use?
  - Alpha Strep = Strep viridans?
  - Corynebacterium = diphtheroids?

Knowing your Micro Lab

- Do they only perform C diff testing on unformed stools?
  - Required for LabID C diff reporting
- What C diff testing method do they use?
  - PCR
  - EIA for toxin only
  - Glutamate dehydrogenase (GDH) antigen plus EIA toxin
  - Cytotoxicity
  - Culture

Determining the Sameness of Organisms

- Matching organisms are defined as:
  - Have the same genus and species
    - Examples:
      - Staphylococcus aureus from blood and wound
      - E. coli from blood and urine
  - Have complementary identifications
    - Examples:
      - Staph epidermidis from one blood culture and Coagulase negative Staph from another
      - Strep viridans from blood and Strep salivarius from wound
    - If complementary organisms are identified, report the genus/species level to NHSN.

Examples of Same Organisms

Culture Report	**Companion Culture Report**	**Report as…**
Coagulase-positive staphylococci	*S. aureus*	*S. aureus*
S. epidermidis	Coagulase-negative staphylococci	*S. epidermidis*
Enterococcus spp.	*E. faecium*	*E. faecium*
Bacillus spp. (not *anthracis*)	*B. cereus*	*B. cereus*
S. salivarius	Strep viridans	*S. salivarius*

Sameness of Organism

- What drives a Microbiologist crazy and makes no sense?
  - MRSA (methicillin resistant Staph aureus) and MSSA (methicillin sensitive Staph aureus) are the same!
  - Both are named Staph aureus
  - Genetically, they're different

Sameness of Organism

- Not all labs report the same…
  - Example #1:
    - "Propionibacterium species" in one set of blood cultures and "Gram Positive Rods – refer to other accession number for ID" in other set of blood cultures drawn the same day
  - Example #2:
    - "Gram Positive Rods, no further workup performed" in one set of blood cultures and "No Growth" in other set of blood cultures drawn the same day

Determining the Sameness of Organisms

- If your lab reports genus and species for one common commensal and only the genus for another, ask if they could fully identify both…you'd be surprised how many times the species are not the same and you can avoid a CLABSI
- Always call the lab if you have a question

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION (CLABSI)

2013 CLABSI Changes

- All references to 48 hours have been changed to 2 calendar days
- Date of Event is the date that the last element required to meet the CLABSI criteria occurred (previously it was the first date)
- Central Line (CL) must be in place for >2 days before all elements of the CLABSI criterion were first present together with Day 1 = Day of Insertion or Day of first access if CL in place on admission (previously no minimum time for line to be in place)

2013 CLABSI Changes

- CL must be in place the day of the event or the day before in order to meet the CLABSI definition
- All criterion used to meet a CLABSI must occur within a timeframe that does not exceed a gap of 1 calendar day (Example: Monday and Wednesday)

CLABSI Criteria

- Recognized pathogen or Common Commensal?
  - A recognized pathogen is any organism that is not included on the common commensal list
- Organism cultured from blood is not related to an infection at another site
  - So many possibilities, many of them depending on culture results from blood and alternate body site

Organism List

http://www.cdc.gov/nhsn/XLS/master-organims-Com-Commensals-Lists.xlsx

- All organisms - >2000
- Common commensals - >400
- Mucosal barrier injury - 500
- Uropathogen - >1300

What is "Not Related to an Infection at Another Site"?

- A bloodstream infection (BSI) may be secondary to another type of infection if the CDC-defined criteria for that specific infection are met.

- http://www.cdc.gov/nhsn/PDFs/pscManual/17pscNosInfDef_current.pdf

What is "Not Related to an Infection at Another Site"?

- What do you know about the organism isolated from the blood? Where is it likely to be normal flora or a colonizer?
  - Urine or abdominal – E coli, Klebsiella, Enterobacter, Enterococcus, Proteus, yeast
  - Skin/Soft tissue/Surgical Site – Staph or Strep
  - Lower Respiratory – E coli, Klebsiella, Serratia, Pseudomonas, Staph aureus
  - Upper Respiratory – Strep, Staph
- What other cultures were done and what are the results?
- Using the NHSN definitions for specific types of infection, start with the infections more commonly associated with the organism identified
- Blood and site specific specimens do not have to be collected on the same day, but their collection dates must be such that they are considered part of the same diagnostic workup.

What is "Not Related to an Infection at Another Site"?

- If Blood and site-specific cultures match for at least one organism

- Example #1:
  - Patient has foley >2 days and meets HAI criteria for UTI
  - Urine grows >100,000 E. coli
  - Blood grows E. coli and Klebsiella pneumonia
  - This is a SUTI with a secondary BSI and the reported organisms are E. coli and Klebsiella since Klebsiella can be urinary pathogen

What is "Not Related to an Infection at Another Site"?

- Blood and site-specific cultures match for at least one organism

- Example #2:
  - Patient has foley >2 days and meets HAI criteria for UTI
  - Urine grows >100,000 E. coli
  - Blood grows E. coli and Staph epidermidis from 1 of 2 blood culture draws
  - This is a SUTI with secondary BSI and E. coli is the reported organism

What is "Not Related to an Infection at Another Site"?

- Blood and site-specific specimen cultures do not match:
  - If the site-specific culture is an element used to meet the infection site criterion and the blood isolate is also an element used to meet another criterion at the same infection site, then the BSI is secondary to the site-specific infection

What is "Not Related to an Infection at Another Site"?

Blood and site-specific specimen cultures do not match:

- Example #1:
  - Patient has fever, abd pain, and nausea and CL >2 days
  - Blood grows E. coli and abd drain grows Bacteroides sp.
  - Positive blood meets one criterion of Gastrointestinal tract (GIT) infection and positive abd drain culture meets another, therefore this is a GIT infection with secondary BSI

What is "Not Related to an Infection at Another Site"?

GIT-Gastrointestinal tract infection (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis and appendicitis

Gastrointestinal tract infections, excluding gastroenteritis and appendicitis, must meet at least *1* of the following criteria:

1. Patient has an abscess or other evidence of infection seen during an invasive procedure or histopathologic examination.
2. Patient has at least *2* of the following signs or symptoms compatible with infection of the organ or tissue involved: fever (>38°C), nausea*, vomiting*, abdominal pain*, or tenderness*
   and
   at least *1* of the following:
   a. organisms cultured from drainage or tissue obtained during an invasive procedure or endoscopy or from an aseptically-placed drain
   b. organisms seen on Gram's or KOH stain or multinucleated giant cells seen on microscopic examination of drainage or tissue obtained during an invasive procedure or endoscopy or from an aseptically-placed drain
   c. organisms cultured from blood
   d. evidence of pathologic findings on imaging test
   e. evidence of pathologic findings on endoscopic examination (e.g., *Candida esophagitis* or *proctitis*).

* With no other recognized cause

What is "Not Related to an Infection at Another Site"?

Blood and site-specific specimen cultures do not match:

- Example #2:
  - Patient has CL and foley >2 days and spikes a fever to 102°C
  - Urine grows >100,000 E. coli and blood grows Klebsiella pneumoniae
  - Patient has CAUTI (Symptomatic UTI – SUTI) due to fever and >100,000 ≤2 organisms
  - Patient also has CLABSI because the SUTI criteria do not include a separate criterion for positive blood cultures

What is "Not Related to an Infection at Another Site"?

	Symptomatic Urinary Tract Infection (SUTI) Must meet at least *1* of the following criteria
1a	Patient had an indwelling urinary catheter in place for >2 calendar days, with day of device placement being Day 1, and catheter was in place time when all elements of this criterion were first present together. *and* at least 1 of the following signs or symptoms: fever (>38°C); suprapubic tenderness*; costovertebral angle pain or tenderness* *and* a positive urine culture of $\geq 10^5$ colony-forming units (CFU)/ml with no more than 2 species of microorganisms.

What is "Not Related to an Infection at Another Site"?

- Positive blood culture and no site-specific culture performed
  - If blood is the only positive specimen and it grows a logical pathogen for the site specific infection and a positive blood culture is one of the site-specific criterion, then the BSI is secondary to the site-specific infection
  - Example:
    - Patient has abd pain, nausea and vomiting with no other recognized cause and patient has a CL >2 days
    - Only a blood culture specimen is collected and it grows E. coli
    - Patient meets Gastrointestinal (GIT) infection (2c) with a secondary BSI

What is "Not Related to an Infection at Another Site"?

GIT-Gastrointestinal tract infection (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis and appendicitis

Gastrointestinal tract infections, excluding gastroenteritis and appendicitis, must meet at least *1* of the following criteria:

1. Patient has an abscess or other evidence of infection seen during an invasive procedure or histopathologic examination.
2. Patient has at least *2* of the following signs or symptoms compatible with infection of the organ or tissue involved: fever (>38°C), nausea*, vomiting*, abdominal pain*, or tenderness*

   and

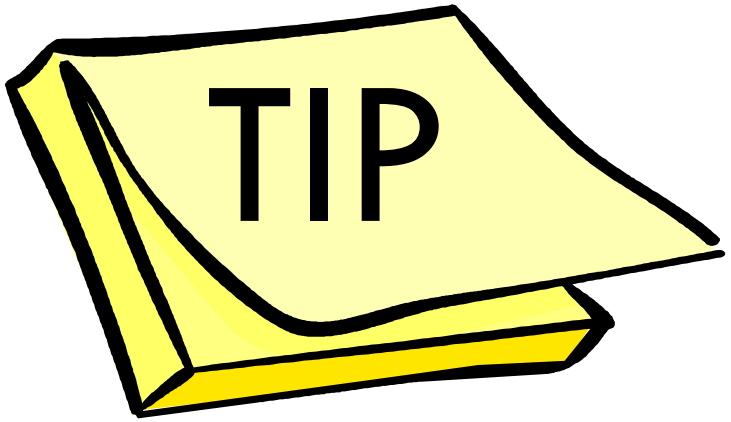
   at least *1* of the following:
   a. organisms cultured from drainage or tissue obtained during an invasive procedure or endoscopy or from an aseptically-placed drain
   b. organisms seen on Gram's or KOH stain or multinucleated giant cells seen on microscopic examination of drainage or tissue obtained during an invasive procedure or endoscopy or from an aseptically-placed drain
   c. organisms cultured from blood
   d. evidence of pathologic findings on imaging test
   e. evidence of pathologic findings on endoscopic examination (e.g., *Candida esophagitis* or *proctitis*).

   * With no other recognized cause

Mucosal Barrier Injury Laboratory-Confirmed Infection (MBI-LCBI)

- Criterion 1
  - Patient meets criteria for LCBI 1 and blood culture is growing one of the organisms from the MBI list with no other organisms isolated
- Criterion 2
  - Patient meets criteria for LCBI 2 and blood cultures are only growing viridans Strep with no other organisms isolated
- Criterion 3
  - Patient ≤1 year of age meets criteria for LCBI 3 and blood cultures are only growing viridans Strep with no other organisms isolated

Mucosal Barrier Injury Laboratory-Confirmed Infection (MBI-LCBI)



- Not every "Strep" on the MBI organism list is a viridans Strep

Strep viridans group

- Strep anginosus
- Strep constellatus
- Strep crista
- Strep gordonii
- Strep intermedius
- Strep mitis
- Strep mutans
- Strep oralis
- Strep parasanguis
- Strep ratti
- Strep salivarius
- Strep sanguis
- Strep sobrinus
- Strep vestibularius

CATHETER-ASSOCIATED URINARY TRACT INFECTION (CAUTI)

2013 CAUTI Changes

- All references to 48 hours have been changed to 2 calendar days
- Date of Event is the date that the last element used to meet the CAUTI criteria occurred (previously it was the first date)
- All criterion used to meet a CAUTI must occur within a timeframe that does not exceed a gap of 1 calendar day (Example: Monday and Wednesday)

2013 CAUTI Changes

- UC must be in place the day of the event or the day before in order to meet the CAUTI definition

- Indwelling urinary catheter (UC) must be in place for >2 days before all elements of the CAUTI criterion were first present together with Day 1 = Day of Insertion (previously no minimum time for UC to be in place)

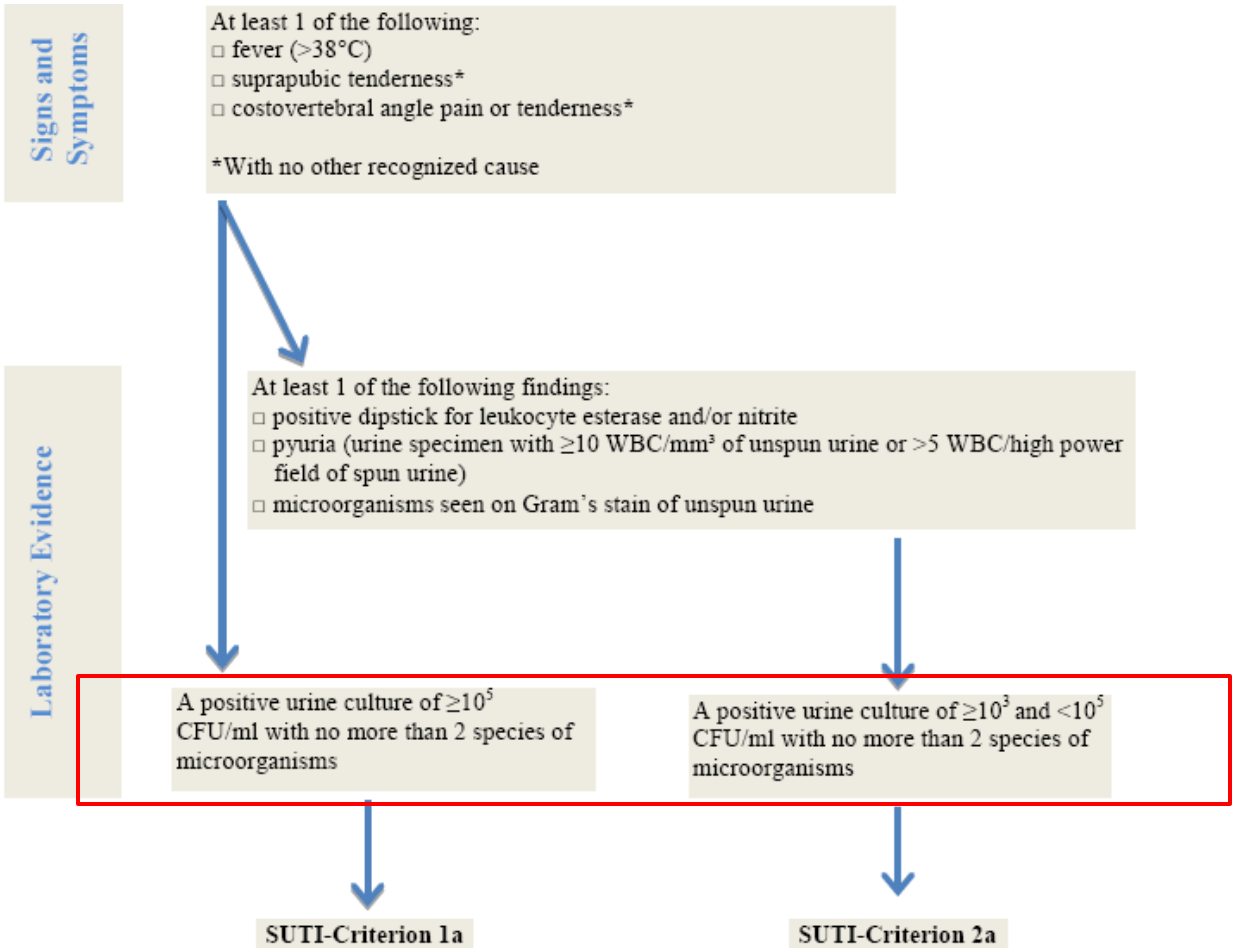
  - If a patient has a fever POA and foley inserted on admission (Day 1) and a positive urine culture with >100,000 E. coli on foley day 3, they must also have a fever on day 3, 4 or 5 to be a HAI.

2013 CAUTI Changes

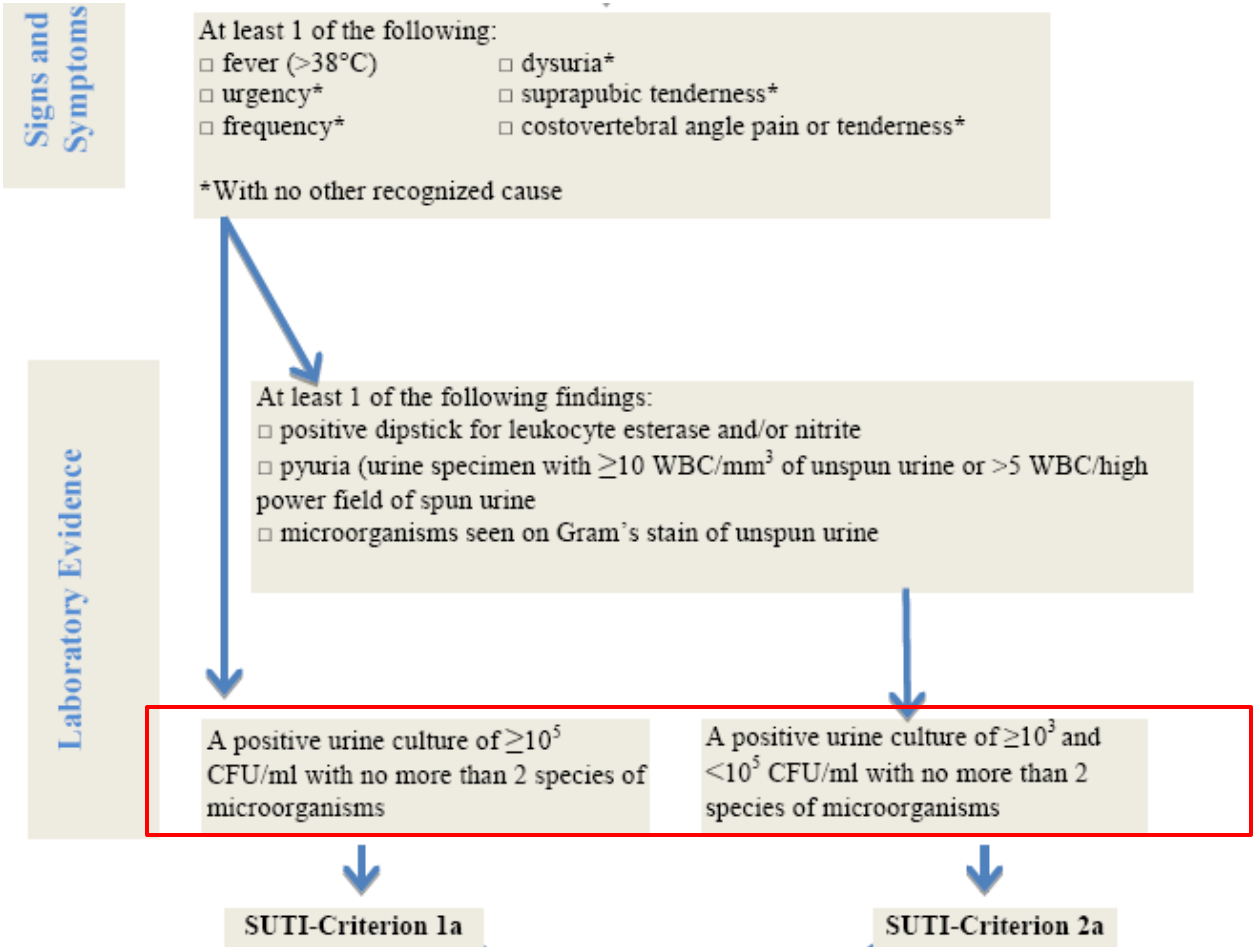
- For all CAUTI criterion, the phrase "with no other recognized cause" does not apply to fever/hypothermia because this is a non-specific finding that can have multiple causes, infectious and non-infectious

- The phrase "with no other recognized cause" applies to signs and symptoms followed by an asterisk (dysuria, frequency, urgency)

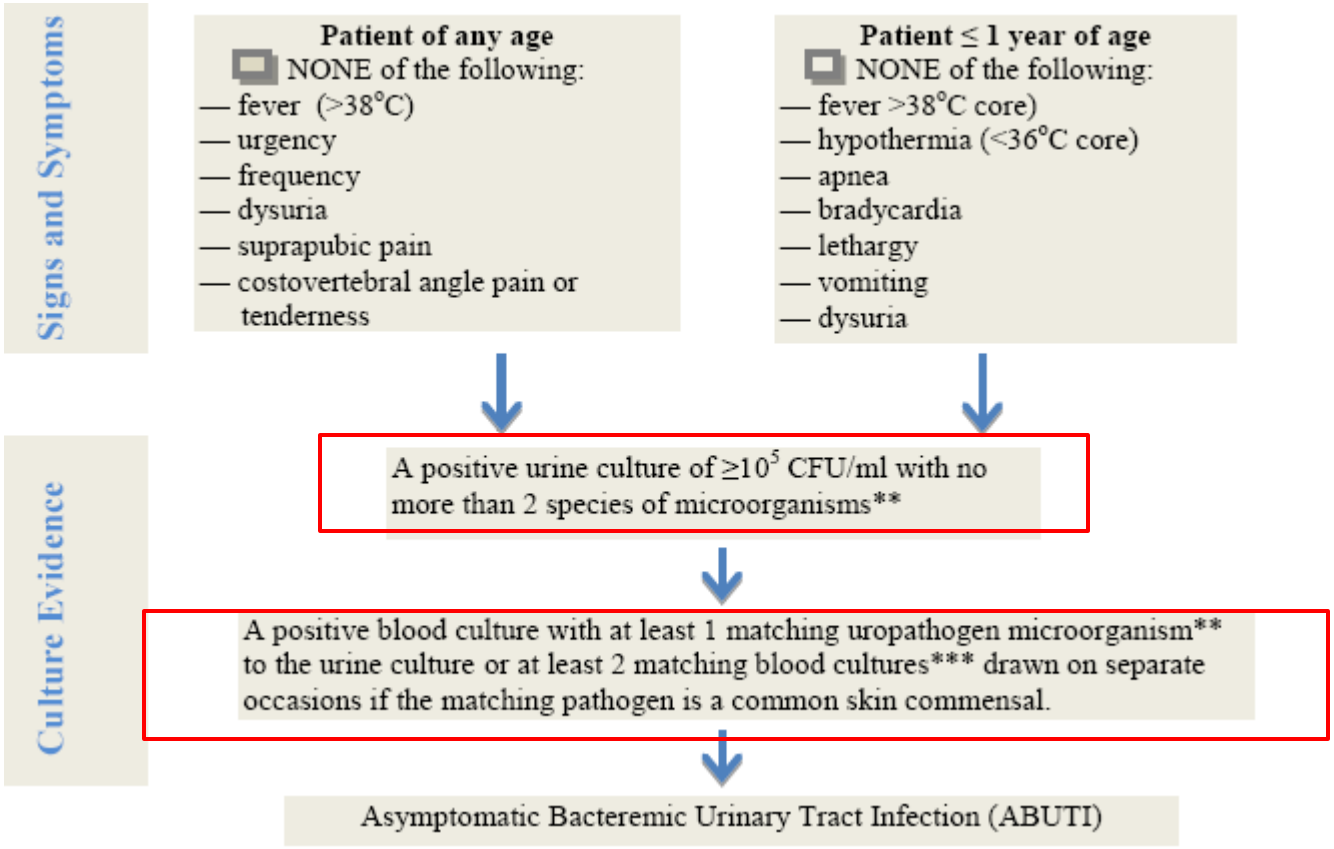
CAUTI – Symptomatic UTI (SUTI)
Catheter in Place



CAUTI – Symptomatic UTI (SUTI)
Catheter removed day of or day before criterion met



CAUTI – Asymptomatic Bacteremic UTI (ABUTI)

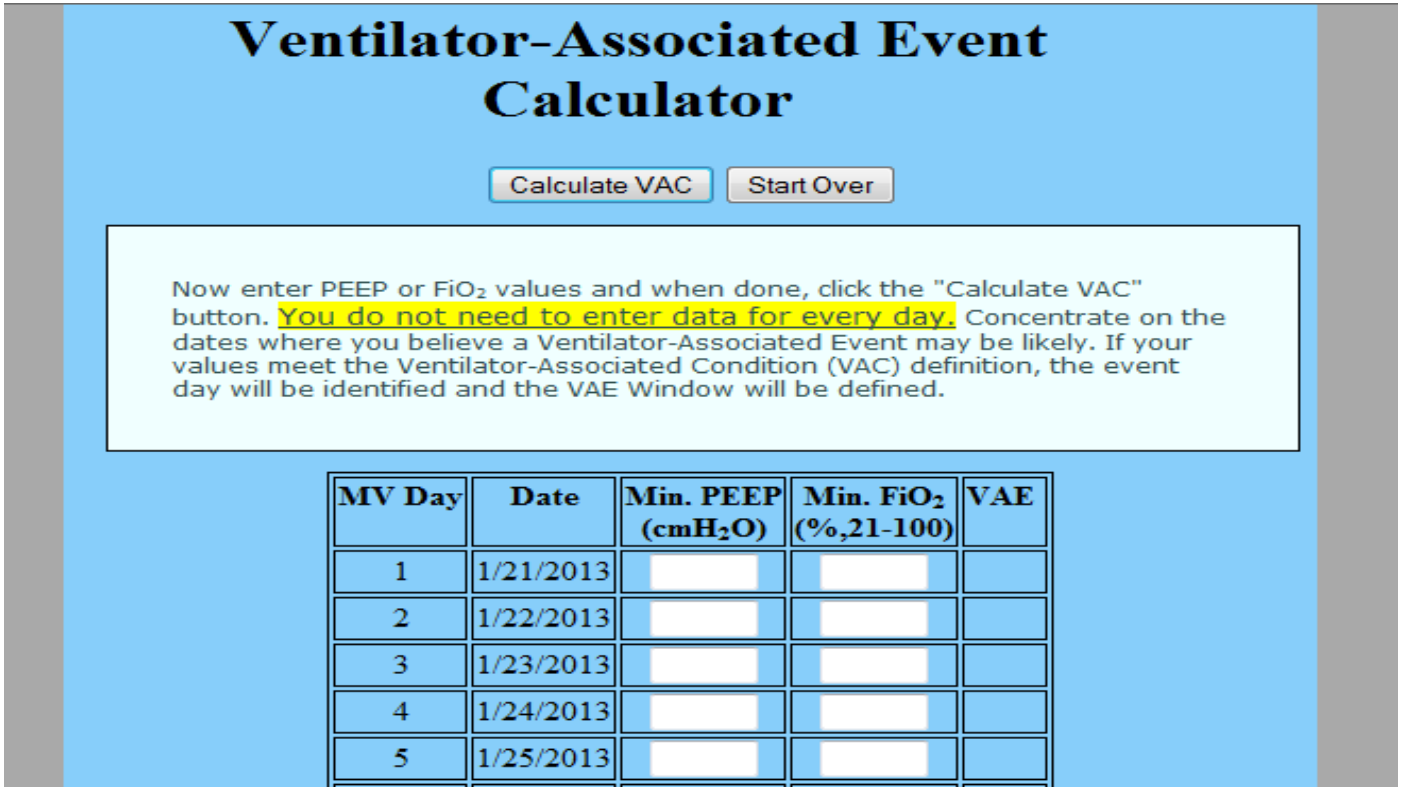


The Future of CAUTI Definitions

- 2014 – Revisions to definitions not requiring changes to data collection form
- 2015 – Revisions to definitions requiring data collection form modification
- Goals for Definitional Review
  - Simplify, if possible, while maintaining/increasing specificity
  - Optimize clinical credibility
  - Level the playing field among facilities
  - Move toward electronic capture

VENTILATOR-ASSOCIATED EVENT (VAE)

VAE Calculator



Ventilator-Associated Event Calculator

Calculate VAC | Start Over

Now enter PEEP or FiO_2 values and when done, click the "Calculate VAC" button. You do not need to enter data for every day. Concentrate on the dates where you believe a Ventilator-Associated Event may be likely. If your values meet the Ventilator-Associated Condition (VAC) definition, the event day will be identified and the VAE Window will be defined.

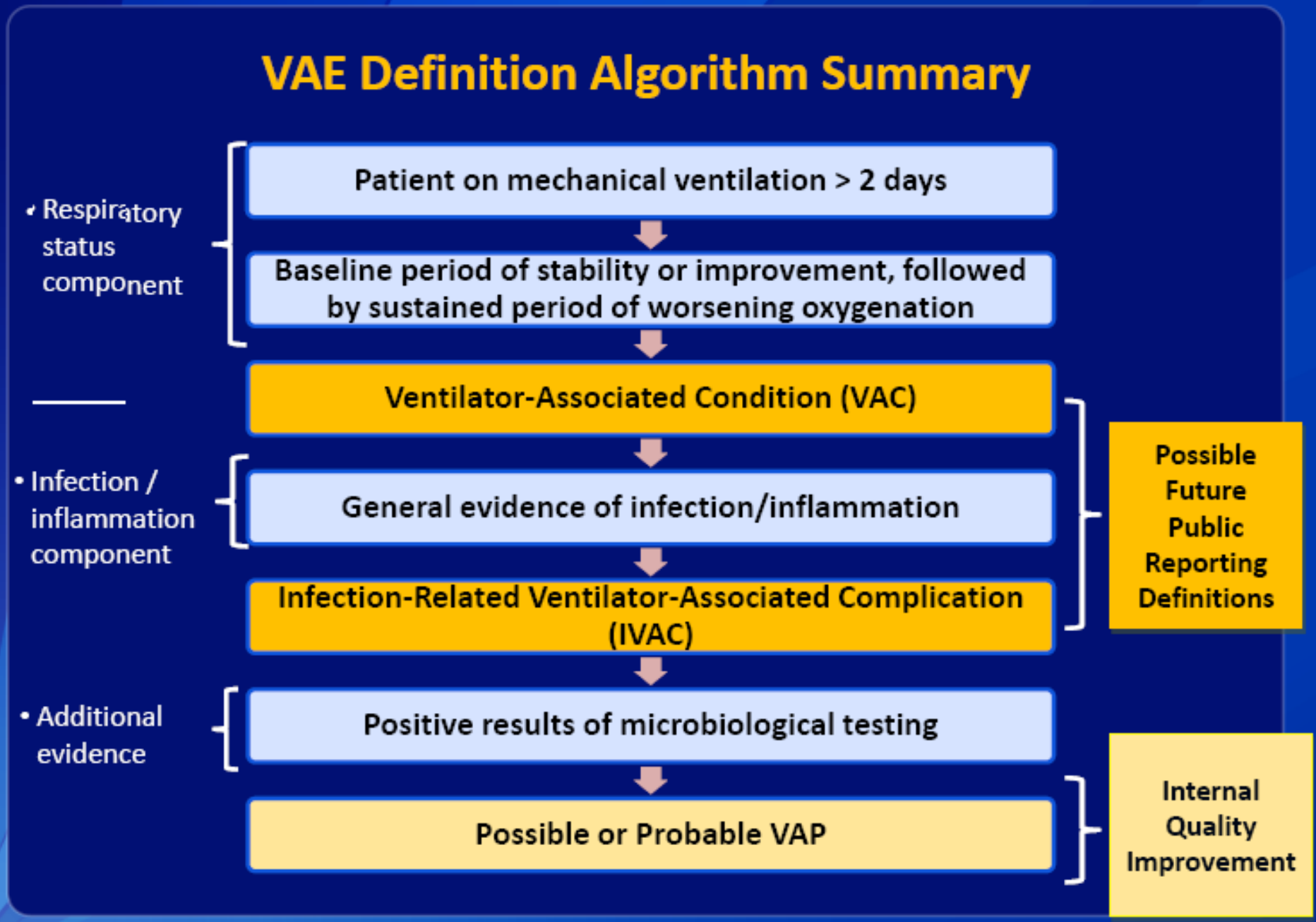
MV Day	Date	Min. PEEP (cmH_2O)	Min. FiO_2 (%,21-100)	VAE
1	1/21/2013			
2	1/22/2013			
3	1/23/2013			
4	1/24/2013			
5	1/25/2013			

http://www.cdc.gov/nhsn/VAE-calculator/index.html

VAE – 3 Tiers

- **Respiratory Status Component:**
  FIO2 and PEEP
- **Infection/Inflammation Component:** ***Temperature, WBC and antibiotics***
- **Laboratory Evidence:** ***purulent respiratory secretions and other laboratory results***

VAE Definition Algorithm Summary



Possible VAP

Patient meets criteria for VAC and IVAC

AND

On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, ONE of the following criteria is met:

1) Purulent respiratory secretions (from one or more specimen collections)
   - Defined as secretions from the lungs, bronchi, or trachea that contain ≥25 neutrophils and ≤10 squamous epithelial cells per low power field [lpf, x100].
   - If the laboratory reports semi-quantitative results, those results must be equivalent to the above quantitative thresholds.

2) Positive culture (qualitative, semi-quantitative or quantitative) of sputum*, endotracheal aspirate*, bronchoalveolar lavage*, lung tissue, or protected specimen brushing*

**Excludes the following:*

- Normal respiratory/oral flora, mixed respiratory/oral flora or equivalent
- *Candida* species or yeast not otherwise specified
- Coagulase-negative *Staphylococcus* species
- *Enterococcus* species

Probable VAP

VAC, IVAC plus the following…

On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, ONE of the following criteria is met:

1) Purulent respiratory secretions (from one or more specimen collections—and defined as for possible VAP)

AND one of the following (see Table 2):

- Positive culture of endotracheal aspirate*, ≥ 10^5 CFU/ml or equivalent semi-quantitative result
- Positive culture of bronchoalveolar lavage*, ≥ 10^4 CFU/ml or equivalent semi-quantitative result
- Positive culture of lung tissue, ≥ 10^4 CFU/g or equivalent semi-quantitative result
- Positive culture of protected specimen brush*, ≥ 10^3 CFU/ml or equivalent semi-quantitative result

**Same organism exclusions as noted for Possible VAP.*

2) One of the following (without requirement for purulent respiratory secretions):

- Positive pleural fluid culture (where specimen was obtained during thoracentesis or initial placement of chest tube and NOT from an indwelling chest tube)
- Positive lung histopathology
- Positive diagnostic test for *Legionella* spp.
- Positive diagnostic test on respiratory secretions for influenza virus, respiratory syncytial virus, adenovirus, parainfluenza virus, rhinovirus, human metapneumovirus, coronavirus

VAE – Micro Notes

What are purulent respiratory secretions?

- Secretions from lungs, bronchi, or trachea with ≥25 neutrophils and ≤10 squamous epithelial cells per low power field (lpf)

- If your lab cannot give you information as to how their semi-quantitative reporting correlates to quantitative reporting, the following may be used:
  - 1+ = occasional or rare = <1 cell/lpf
  - 2+ = few = 1-9 cells/lpf
  - 3+ = moderate = 10-25 cells/lpf
  - 4+ = heavy or many = >25 cells/lpf
  - Using this scheme, a purulent specimen would be defined as secretions containing heavy or 4+ neutrophils AND rare, occasional, few, 1+ or 2+ epithelial cells.

VAE – Micro Notes

What constitutes a "positive" culture using semi-quantitative results?

- 2+ growth
- 3+ growth
- 4+ growth
- Moderate growth
- Heavy growth

VAE – Micro Notes

- The following organisms may not be used to meet poss. VAP or prob. VAP definitions if obtained from sputum, endotracheal aspirate, bronchoalveolar lavage or protected specimen brushings:
  - Normal respiratory flora, normal oral flora, mixed respiratory flora, mixed oral flora or similar results
  - Candida or yeast not otherwise specified
  - Coagulase-negative Staph
  - Enterococcus species

VAE Changes

2013

- Daily minimum PEEP values of 0 to 5 cmH2O are considered equivalent when making VAC determinations.

2014

- VAE surveillance will become patient location-based and no longer be age-based (≥18 years of age).

SURGICAL SITE INFECTION (SSI)

2013 SSI Changes

- Definition of "Primary Closure" – Closure of all tissue levels during the original surgery, regardless of wires, wicks, drains, or other devices extruding through the incision. If any portion of the incision is closed at the skin level, by any manner, it is primarily closed.
- Endoscope" changed to "Scope" – creation of several small incisions to perform or assist in the performance of an operation; includes robotic assistance
- No longer follow procedures with implants for 1 year for deep or organ space SSI.

2013 SSI Changes

Table 3. ***Surveillance Period for Deep Incisional or Organ/Space SSI Following Selected NHSN Operative Procedure Categories***

30-day Surveillance			
Code	**Operative Procedure**	**Code**	**Operative Procedure**
AAA	Abdominal aortic aneurysm repair	LAM	Laminectomy
AMP	Limb amputation	LTP	Liver transplant
APPY	Appendix surgery	NECK	Neck surgery
AVSD	Shunt for dialysis	NEPH	Kidney surgery
BILI	Bile duct, liver or pancreatic surgery	OVRY	Ovarian surgery
CEA	Carotid endarterectomy	PRST	Prostate surgery
CHOL	Gallbladder surgery	REC	Rectal surgery
COLO	Colon surgery	SB	Small bowel surgery
CSEC	Cesarean section	SPLE	Spleen surgery
GAST	Gastric surgery	THOR	Thoracic surgery
HTP	Heart transplant	THYR	Thyroid and/or parathyroid surgery
HYST	Abdominal hysterectomy	VHYS	Vaginal hysterectomy
KTP	Kidney transplant	XLAP	Exploratory Laparotomy
		OTH	Other operative procedures not included in the NHSN categories

2013 SSI Changes

90-day Surveillance	
Code	**Operative Procedure**
BRST	Breast surgery
CARD	Cardiac surgery
CBGB	Coronary artery bypass graft with both chest and donor site incisions
CBGC	Coronary artery bypass graft with chest incision only
CRAN	Craniotomy
FUSN	Spinal fusion
FX	Open reduction of fracture
HER	Herniorrhaphy
HPRO	Hip prosthesis
KPRO	Knee prosthesis
PACE	Pacemaker surgery
PVBY	Peripheral vascular bypass surgery
RFUSN	Refusion of spine
VSHN	Ventricular shunt

SSI – Micro Notes

- What is an aseptically obtained culture?
  - Fluid
  - Tissue
  - Bone
- What is not an aseptically obtained culture?
  - **SWAB**

SSI Surveillance Notes

- The presence of organisms during the initial surgery, does not exclude those same organisms from being the source of a SSI later.
  - Example:
    - 25yo female admitted with perforated appendix and culture of abdominal fluid collected during the appendectomy grows E. coli, Klebsiella and Bacteroides
    - 2 weeks later the patient develops an abdominal abscess (observed on subsequent procedure) growing E. coli and Bacteroides
    - Patient meets the CDC definition for GIT

SSI Surveillance Notes

- If a patient has an infection in the organ/space being operated on and the surgical incision was closed primarily, subsequent continuation of this infection type during the remainder of the surveillance period is considered an organ/space SSI, if organ/space SSI and site-specific infection criteria are met.

- Rationale: Risk of continuing or new infection is considered to be minimal when surgeon elects to close a wound primarily

SSI Surveillance Notes

- If the incision opens due to fall or other reasons and there is no evidence of infection at the time of the incisional opening, then subsequent infection of the incision is not considered a SSI.

- If a post-op patient has an intact incision, or the incision status is unknown, and the patient bathes or showers too early, is incontinent and contaminates their own incision, or gets their incision dirty by some other means, then subsequent infection is considered a SSI.

Coming in 2014

- NHSN procedures will no longer require primary incisional closure.
- Eligibility will be based on the NHSN operative procedure categories, the surgery included an incision and occurred in an operating room.
- The Association of Anesthesia Clinical Directors Definition of Operative Duration will be adopted
- Musculoskeletal Infection Society Definitions of Periprosthetic Joint Infection for HPRO and KPRO will replace SSI-JNT

Coming in 2014

- Expanded Risk Adjustment, including:
  - Height and weight for all procedures
  - Diabetes for all procedures
  - Closure technique
  - Transoral approach for Fusions and Refusions
  - Additional types of HPRO and KPRO (chart on next slide)

Coming in 2014

Knee Replacement Type

NHSN code	Description
1406-8	Total: Total Primary Knee Replacement
1407-6	Total: Total Revision Knee Replacement
1408-4	Total: Partial Revision Knee Replacement
1409-2	Hemi: Partial Primary Knee Replacement
1411-8	Hemi: Total Revision Knee Replacement
1412-6	Hemi: Partial Revision Knee Replacement

Hip Replacement Type

NHSN code	Description
1413-4	Total: Total Primary Hip Replacement
1414-2	Total: Total Revision Hip Replacement
1415-9	Total: Partial Revision Hip Replacement
1416-7	Hemi: Partial Primary Hip Replacement
1417-5	Hemi: Total Revision Hip Replacement
1418-3	Hemi: Partial Revision Hip Replacement
1419-1	Resurfacing: Total Primary Hip Replacement
1420-9	Resurfacing: Total Revision Hip Replacement
1421-7	Resurfacing: Partial Primary Hip Replacement
1422-5	Resurfacing: Partial Revision Hip Replacement

LabID CLOSTRIDIUM DIFFICILE AND MRSA

CLOSTRIDIUM DIFFICILE (C DIFF)

Reporting Requirements

- What's required reporting by CMS?
  - Acute Care Hospitals
  - All Inpatients (facility-wide)
  - Exclude newborn locations
  - Any positive laboratory test result for C diff A and/or B

  OR
  - A toxin-producing C diff organism detected by culture or other laboratory means performed on an unformed stool sample.

Rules for Reporting

- Positive C diff tests collected in the Emergency Department should be reported if the patient is admitted the same day
- Patient location is where the specimen was collected (if collected in ED, location is subsequent inpatient unit)
- Do not report if patient has positive C diff in previous 14 days from same location.
- Do report if patient has positive C diff in previous 14 days from different location.

NHSN Categorization

- NHSN will categorize LabID C diff events into the following categories based on admission date and specimen collection date:
  - Healthcare Facility-Onset (HO) = Specimen collected >3 days after admission
  - Community-Onset Healthcare Facility-Associated (CO-HCFA) = Specimen collected from a patient who was discharged ≤4 weeks prior
  - Community-Onset (CO) = Specimen collected ≤3 days after admission

NHSN Categorization

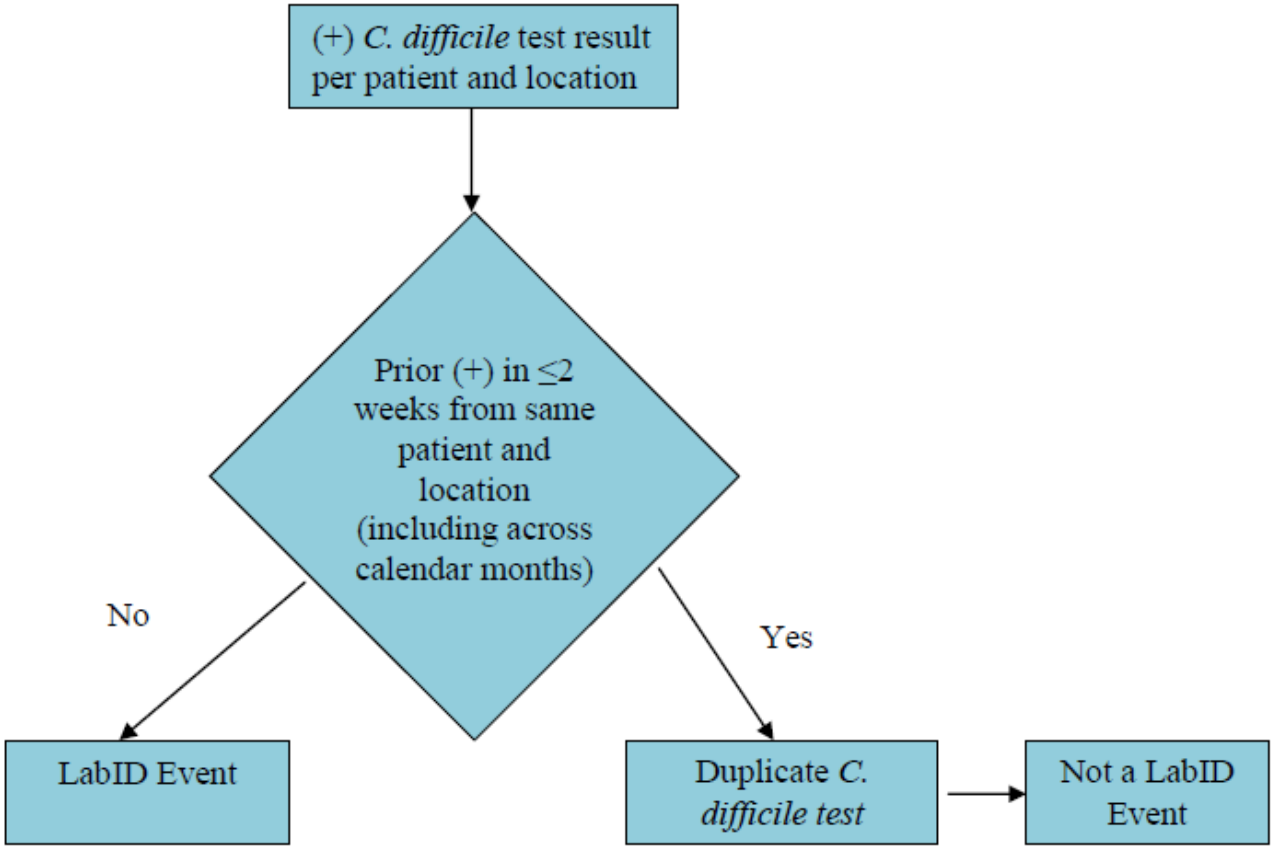
Further Categorization based on current specimen collection date and prior specimen collection date:

- Incident CDI Assay: Any CDI LabID Event from a specimen obtained >8 weeks after the most recent CDI LabID event (or with no previous CDI LabID event documented) for that patient

- Recurrent CDI Assay: Any CDI LabID Event from a specimen obtained >2 weeks and ≤8 weeks after the most recent CDI LabID event for that patient

- NHSN will only report incident HO C diff LabID Events to CMS.

LabID C diff Algorithm



MRSA BACTEREMIA

Reporting Requirements

- What's required reporting by CMS?
  - Acute Care Hospitals
  - All Inpatients (facility-wide)
  - Include newborns
  - Methicillin resistant Staphylococcus aureus (MRSA) from blood only
  - Do not include any tests related to active surveillance testing

Rules for Reporting

- Positive MRSA blood cultures collected in the Emergency Department should be reported if the patient is admitted the same day
- Patient location is where the specimen was collected (if collected in ED, location is subsequent inpatient unit)
- Do not report if patient has positive MRSA from blood in previous 14 days from same location.
- Do report if patient has positive MRSA from blood in previous 14 days from different location.

NHSN Categorization

- NHSN will categorize LabID MRSA Bacteremia events into the following categories:
  - Healthcare Facility-Onset (HO) = Specimen collected >3 days after admission
  - Community-Onset (CO) = Specimen collected ≤3 days after admission
- NHSN will only report HO to CMS

Coming in 2014

- A LabID Event calculator for C diff and MRSA Bacteremia

Questions?