April 2, 2026

The Strength of Being Second:
Secondary BSI Surveillance

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Centers for Disease Control and Prevention

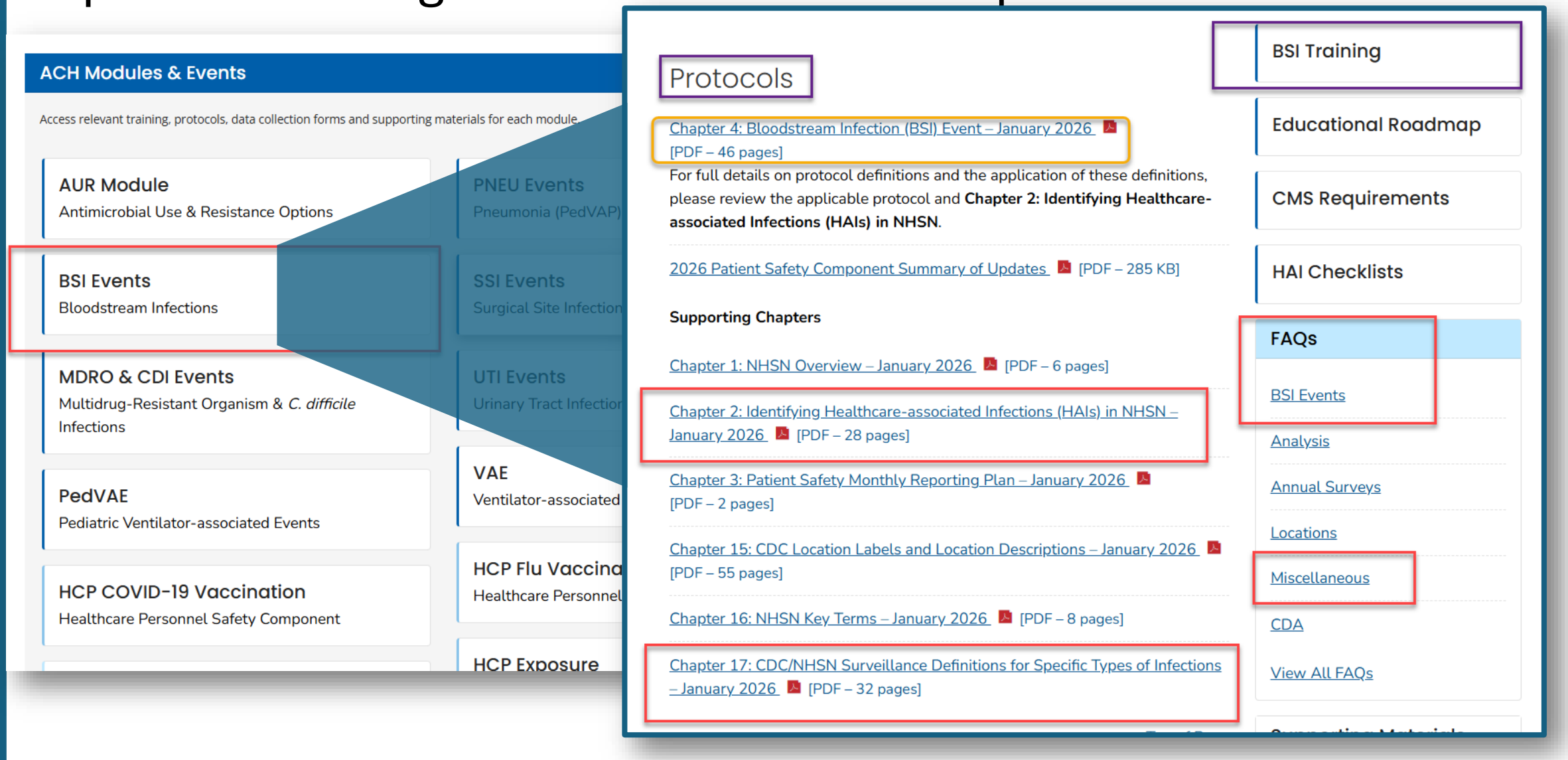
NHSN Annual Training 2026


Strength
Second
Help

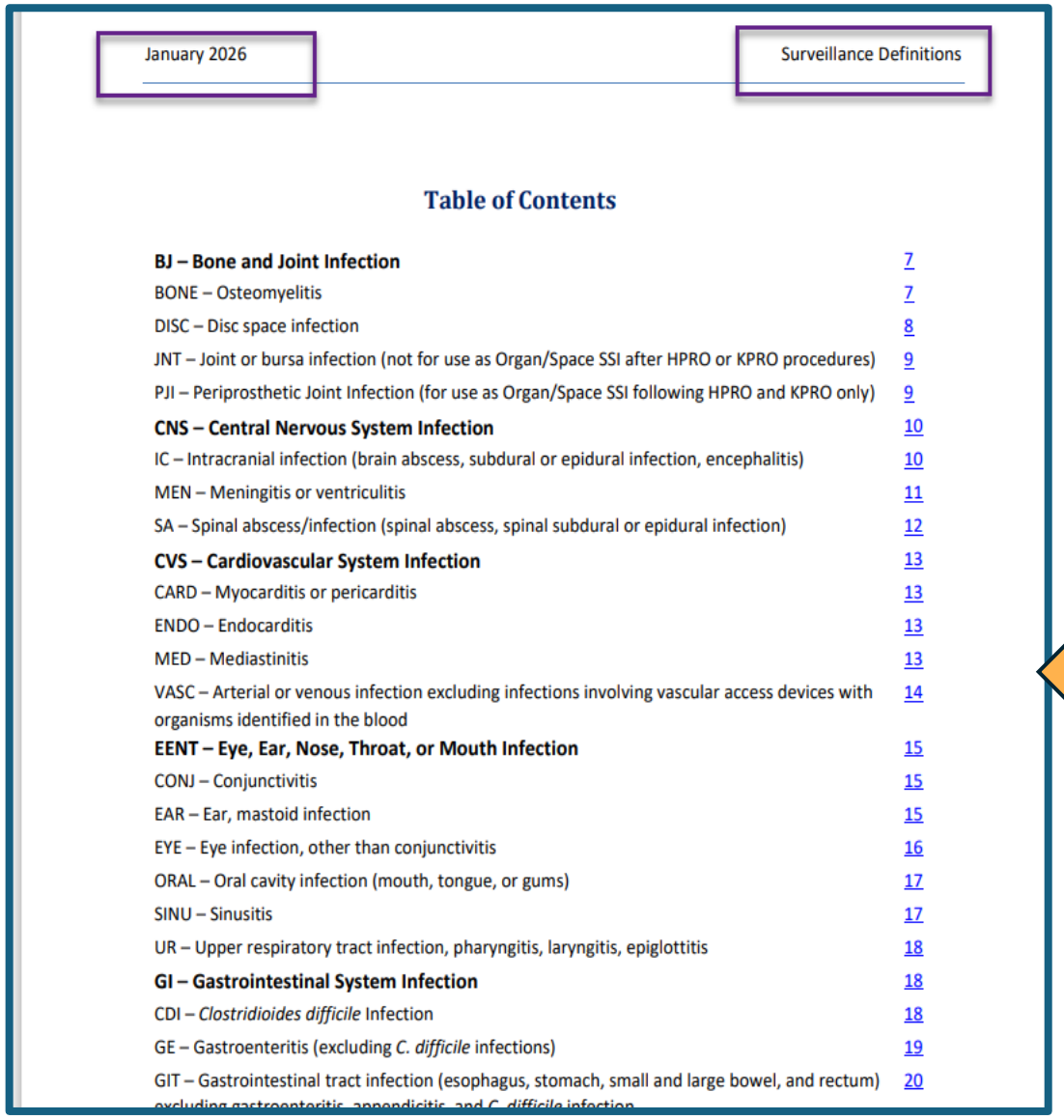
Objectives

- Know basic guidance for secondary BSI determinations
- Grasp and apply secondary BSI concepts to make a secondary BSI determination
- Demonstrate mastery of secondary BSI concepts in case determinations via knowledge checks and case studies
- Recognize the importance of secondary BSI determinations in BSI surveillance

Online Resource: https://www.cdc.gov/nhsn/acute-care-hospital/index.html



Important 2nd BSI Tools



January 2026

Surveillance Definitions

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Chapter 17

Table B1: Secondary BSI Guide: List of all NHSN primary site-specific definitions available for making secondary BSI determinations using Scenario 1 or Scenario 2

Scenario 1	Scenario 2
A positive blood specimen must contain at least **one eligible matching organism** to the site-specific specimen	Positive blood specimen must be an **element** of the **site-specific definition**
And the blood specimen is collected in the site-specific **secondary BSI attribution period**	**And** blood specimen is collected in the site-specific **infection window period**
And an eligible organism **identified from the site-specific specimen** is used as an element to meet the site-specific definition	And an eligible organism **identified in a blood specimen** is used as an element to meet the site-specific definition

Site	Criterion
ABUTI	ABUTI
BONE	1
BRST	1
CARD	1
CIRC	2 or 3
CONJ	1a
DECU	1
DISC	1
EAR	1, 3, 5 or 7
EMET	1
ENDO	1
EYE	1
GE	2a
GIT	2a, 2b (only yeast)
IAB	1 or 3a
IC	1
JNT	1
LUNG	1
MED	1
MEN	1
ORAL	1, 3a, 3d (only yeast)
OREP	1
PJI	1 or 3e
PNEU	2 or 3
SA	1
SINU	1
SSI	SI, DI or OS
SKIN	2a
ST	1
UMB	1a
UR	1a or 3a
USI	1
SUTI	1a, 1b or 2
VASC *only as SSI*	1

Site	Criterion
ABUTI	ABUTI
BONE	3a
BURN	1
DISC	3a
ENDO	4a, 4b, 4c, 4d (titer excluded), 4f, 5a, 5b, 5c, 5d (titer excluded), 5f, 6e, or 7f plus other criteria as listed
GIT	1b or 2c
IAB	2b or 3b
JNT	3c
MEN	2c or 3c
OREP	3a
PNEU	2 or 3
SA	3a
UMB	1b
USI	3b or 4b

BSI chapter 4 pg.34

Additional Tools:

https://www.cdc.gov/nhsn/poa/index.html

Healthcare–associated Infection (HAI)/POA Worksheet Generator

Healthcare–associated Infection (HAI) and Present on Admission Infection (POA) Worksheet Generator

Print

Welcome to the NHSN Healthcare–associated Infection (HAI) and Present on Admission Infection (POA) Worksheet Generator Version 1.0. The Generator operates based upon the currently posted guidance found in the Patient Safety Component Manual, Chapter 2, Identifying Healthcare-associated Infections (HAIs) in NHSN [PDF – 1M].

The Worksheet Generator is a web-based tool that is designed to identify the:

- 7-day Infection Window Period
- Date of Event and POA or HAI determination
- 14-day Repeat Infection Timeframe (RIT)
- Secondary Bloodstream Infection Attribution Period (if applicable)

This Worksheet Generator **does not** determine that all NHSN infection criteria have been met. It is incumbent upon the user to determine that the infection criterion was met as reflected in the dates and information supplied.

https://www.cdc.gov/nhsn/hai-checklists/

HAI Checklists

Print

The NHSN Healthcare Associated Infections (HAI) checklists were developed by the National Healthcare Network (NHSN) subject matter experts (SMEs) as a tool to aid Infection Preventionists and other users when making a determination about a healthcare-associated infection.

The HAI checklists should not be used in isolation, but in conjunction with the Patient Safety Manual. Please note all NHSN HAI criteria for each respective module is listed in a single document. Use the scroll bar to locate the criterion of interest. It is our hope that the checklists will assist with your surveillance efforts.

2026 2025 2024 2023 2022

2026 NHSN HAI Site Specific Infections

NHSN Laboratory Confirmed Bloodstream Infection (LCBI) Checklist [PDF – 399 KB]

2026 NHSN Chapter 17 Site Specific Infections

NHSN Bone and Joint Infection (BJI) Checklist [PDF – 390 KB]

NHSN Cardiovascular (CVS) System Infection Checklist [PDF – 490 KB]

NHSN Central Nervous System (CNS) Checklist [PDF – 292 KB]

NHSN Eye, Ear, Nose Throat, or Mouth (EENT) Infection Checklist [PDF – 384 KB]

NHSN Gastrointestinal System Infection (GI) Checklist [PDF – 334 KB]

NHSN Lower Respiratory Infection (LRI) Checklist [PDF – 190 KB]

NHSN Reproductive Tract Infection (REPR) Checklist [PDF – 254 KB]

NHSN Skin and Soft Tissue (SST) Infection Checklist [PDF – 411 KB]

NHSN Urinary System Infection (USI) Checklist [PDF – 238 KB]

Knowledge Check

Which Online Resources may assist in a Secondary BSI determination?

1. NHSN Protocol chapter 2, 4 and 17
2. NHSN HAI/POA Worksheet generator and HAI Calculator
3. Both 1 and 2
4. None – I'll just wing it

Knowledge Check

Which Online Resources may assist in a Secondary BSI determination?

1. NHSN Protocol chapter 2, 4 and 17
2. NHSN HAI/POA Worksheet generator and HAI Calculator
3. **Both 1 and 2** ✓
4. None – I'll just wing it

*Key Concepts for Secondary BSI

NHSN
NATIONAL HEALTHCARE SAFETY NETWORK

January 2026

Identifying Healthcare-associated Infections (HAI) for NHSN Surveillance

The purpose of Chapter 2 is to standardize the classification of an infection as present on admission (POA) or a healthcare-associated infection (HAI), using objective surveillance definitions and guidance for NHSN surveillance. The intention of this chapter is to align criteria and definitions and decrease subjectivity while maintaining epidemiologic standardization and clinical relevance. A variety of scenarios to include repeat infections of the same type, concurrent infections of differing types, and pathogen assignment in multi-pathogen infections are addressed. See Appendix Flow Diagram for NHSN Event Determination.

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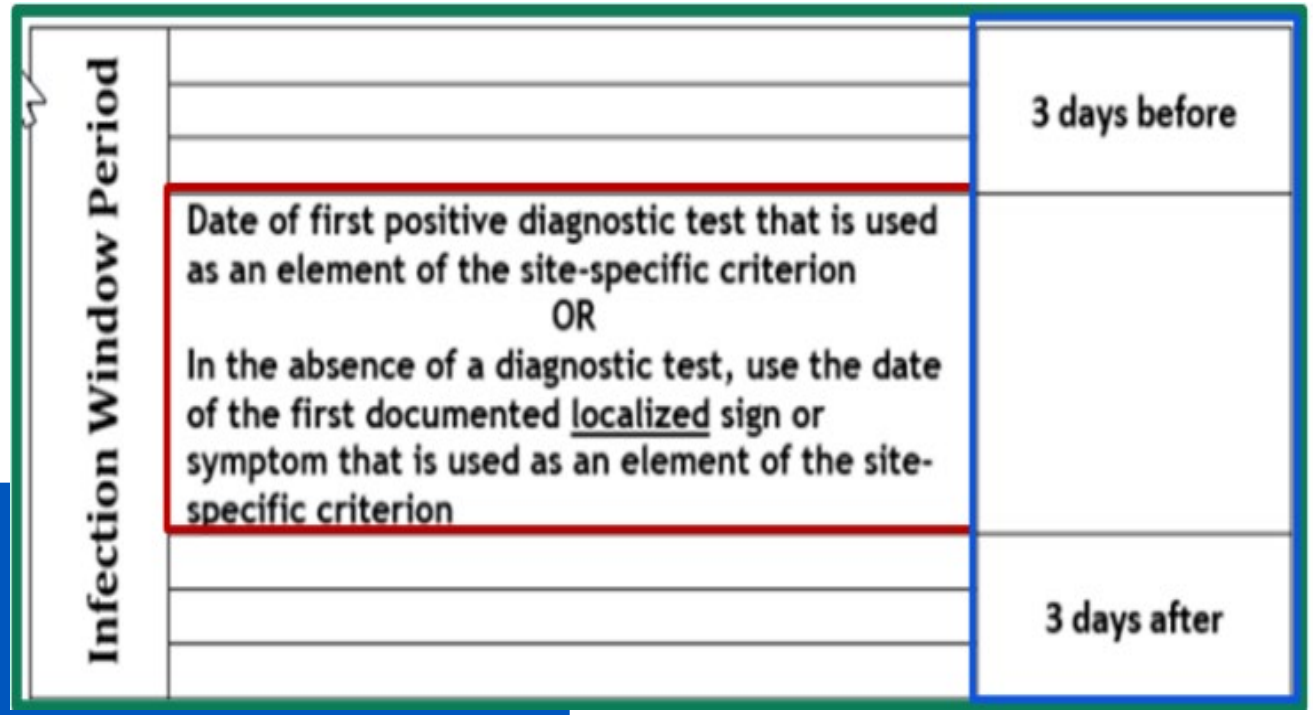
*Key Concepts for Secondary BSI

Infection Window Period (IWP)

- The 7-days during which all site-specific infection criteria must be met. It includes the collection date of the **first positive diagnostic test** that is used as an element to meet the site-specific infection criterion, the 3 calendar days before and the 3 calendar days after.
- 21-day BONE or ENDO IWP



*Key Concepts for Secondary BSI

Date of Event (DOE)

- The date the first element used to meet an NHSN site-specific infection criterion occurs for the first time within the seven-day infection window period.

Hospital Day/Date	First Diagnostic Test	Infection Window Period (*)	Date of Event
5. - 2/7/2026			-
6. - 2/8/2026			-
7. - 2/9/2026			-
8. - 2/10/2026	✓	HYPOTENSION	- HAI
9. - 2/11/2026		+BC CNS	-
10. - 2/12/2026		+BC CNS	-
11. - 2/13/2026			-
12. - 2/14/2026			-
13. - 2/15/2026			-
14. - 2/16/2026			-
15. - 2/17/2026			-
16. - 2/18/2026			-

*Key Concepts for Secondary BSI

Repeat Infection Timeframe (RIT)

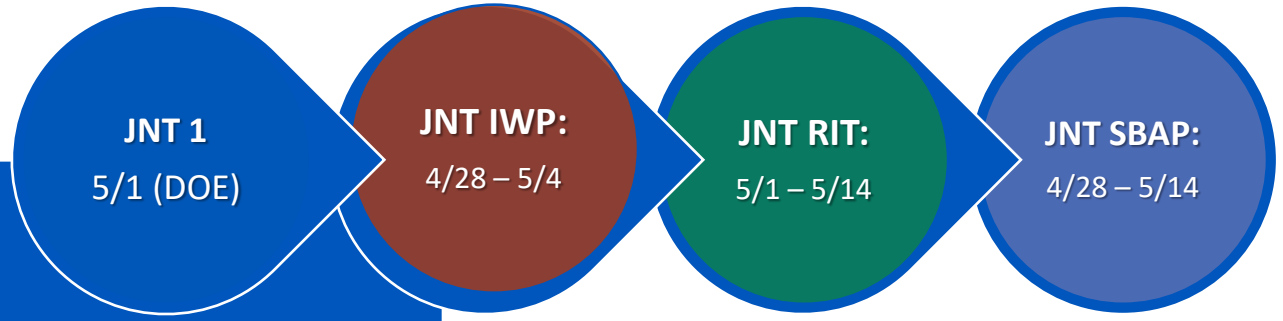
- A **14-day timeframe** during which no new infections of the same type are reported.
- The date of event is **Day 1** of the 14-day RIT.
- If criteria for the same type of infection are met and the date of event is within the **14-day RIT**, a new event is not identified or reported.
- **BONE** or **ENDO** RIT - extended to include the remainder of the patient's current admission.

HD	RIT	IWP
1		
2		
3		
4 DOE	1	**Urine culture:** >100,000 CFU/ ml *E. coli*
5	2	Fever > 38.0 C
6	3	Fever > 38.0 C
7	4	
8	5	
9	6	Urine culture: No growth
10	7	
11	8	
12	9	**Urine culture:** >100,000 CFU/ ml *S. aureus,* Fever > 38.0 C
13	10	
14	11	
15	12	
16	13	
17	14	
		UTI HAI **Date of Event: HD 4** **Pathogen: *E. coli, S. aureus***

*Key Concepts for Secondary BSI

Secondary Blood Attribution Period (SBAP)

- The period in which a blood specimen must be collected for a secondary bloodstream infection to be attributed to a primary site infection.
- Includes **the infection window period (IWP) combined with the repeat infection timeframe (RIT)**.
- **14-17 days** in length depending upon the date of event.
- **BONE** or **ENDO** SBAP: includes the **21-day IWP** and **the remainder of the patient's admission.**



Knowledge Check

Which of the following statements are correct?

1. The Date of Event (DOE) is based on how the infection criteria is met
2. The Infection Window Period (IWP) begins the date of admission
3. The Repeat Infection Timeframe is a fixed timeframe based on DOE
4. The Secondary Blood Attribution Period (SBAP) is the same for all infections.
5. What does any of the above mean???

Knowledge Check

Which of the following statements are correct?

1. **The Date of Event (DOE) is based on how the specific infection criteria is met**
2. The Infection Window Period (IWP) begins the date of admission
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4. The Secondary Blood Attribution Period (SBAP) is the same for all infections.
5. What does any of the above mean???

Rationale – *Chapter 2 Identifying HAIs in NHSN*

Rationale – Chapter 2 *Identifying HAIs in NHSN*

1. The Date of Event (DOE) is the date the first element used to meet an NHSN site-specific infection criterion occurs for the first time within the seven-day infection window period
2. The IWP is set by the collection date of the first positive diagnostic test that is used as an element to meet the site-specific infection criterion.
3. The RIT is a 14-day timeframe during which no new infections of the same type are reported. The RIT applies to both POA and HAI determinations (Note: To establish a POA RIT, the event must first fully meet NHSN criteria). • The DOE is Day 1 of the 14-day RIT.
4. The SBAP is the period in which a blood specimen must be collected for a secondary bloodstream infection to be attributed to a primary site infection. In HAI surveillance, this period includes the IWP combined with the RIT. The SBAP is 14-17 days in length depending upon the date of event. When meeting the endocarditis (ENDO) or osteomyelitis (BONE) definition, the secondary BSI attribution period includes the 21-day infection window period and all subsequent days of the patient's current admission.

Surveillance Definitions, Chapter 17

Considerations in Secondary BSI determination Element Interpretations

Chapter 17 : Infection criteria used for NHSN healthcare-associated infection surveillance have been grouped into 14 major types with 33 categorizations for specific infection types

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CONJ – Conjunctivitis 15
EAR – Ear, mastoid infection 15
EYE – Eye infection, other than conjunctivitis 16
ORAL – Oral cavity infection (mouth, tongue, or gums) 17
SINU – Sinusitis 17
UR – Upper respiratory tract infection, pharyngitis, laryngitis, epiglottitis 18
GI – Gastrointestinal System Infection 18
CDI – *Clostridioides difficile* Infection 18
GE – Gastroenteritis (excluding *C. difficile* infections) 19
GIT – Gastrointestinal tract infection (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis, appendicitis, and *C. difficile* infection 20
IAB – Intraabdominal infection, not specified elsewhere, including gallbladder, bile ducts, liver (excluding viral hepatitis), spleen, pancreas, peritoneum, retroperitoneal, subphrenic or subdiaphragmatic space, or other intraabdominal tissue or area not specified elsewhere 21

specific type of infection

Imaging Test evidence of infection:

- **BONE 3b**. imaging test evidence definitive for infection (for example, x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation, specifically, physician or physician designee documentation of antimicrobial treatment for osteomyelitis.
- **GIT 2d**: d. imaging test evidence definitive for gastrointestinal infection (for example, endoscopic exam, MRI, CT scan), which if equivocal is supported by clinical correlation, specifically, physician or physician designee documentation of antimicrobial treatment for gastrointestinal tract infection.
- **ENDO**: echocardiographic or cardiac CT imaging test evidence of endocarditis

What is definitive and what is equivocal?

What is definitive and what is equivocal Imaging test evidence of infection?

Definitive

- Abscess
- Phlegmon
- Pyelonephritis
- Ruptured appendix
- Osteomyelitis
- Vegetation on valve or supporting structures

Equivocal

- Fluid Collection
- Loculated collection
- Pockets of fluid
- Inflammation vs. infection
- May represent infection
- Could be infected

** Equivocal imaging requires clinical correlation for use

NOTE: this listing should be taken as general guidance and does not represent all definitive or equivocal language found on an individual imaging report

What is Clinical Correlation for imaging test evidence of infection?

***Key Terms:**

Physician or physician designee documentation of antimicrobial treatment for site-specific infection related to equivocal findings (not clearly identified) of infection on imaging test

- Examples of site-specific infection criteria where clinical correlation is required to support equivocal imaging:
  - GIT 2d: imaging test evidence definitive for gastrointestinal infection (for example, endoscopic exam, MRI, CT scan), which **if equivocal is supported by clinical correlation**, specifically, physician or physician designee documentation of antimicrobial treatment for gastrointestinal tract infection.
  - IAB 3b: imaging test evidence definitive for infection (for example, ultrasound, CT scan, MRI, ERCP, radiolabel scans [gallium, technetium, etc.] or on abdominal x-ray), which **if equivocal is supported by clinical correlation**, specifically, physician or physician designee documentation of antimicrobial treatment for intraabdominal infection

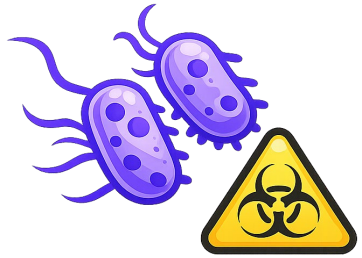
NOTE: examples are not a complete list of site-specific infection criteria where equivocal imaging may be found

What is NEGATIVE Imaging test evidence of infection?

Negative regardless of clinical correlation

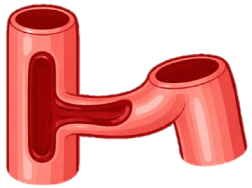
Free fluid

Inflammation

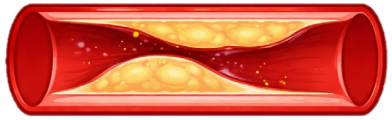


Contamination

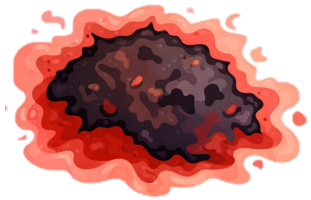
Ascites



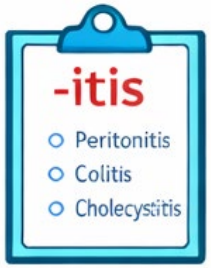
Fistula



Ischemia



Necrosis



Many conditions ending with ‘itis’ when used alone (ex. peritonitis, colitis, cholecystitis)

NOTE: this listing should be taken as general guidance and does not represent all negative language found on an individual imaging report

Endocarditis (ENDO) specific imaging requirements

ENDO 4		
At least ***one*** of the following echocardiographic or cardiac CT imaging test evidence of endocarditis[§]: i. vegetation on cardiac valve or supporting structures[†] ii. valvular/leaflet perforation iii. valvular/leaflet aneurysm iv. perivalvular or peri graft abscess v. pseudoaneurysm vi. intracardiac fistula vii. significant new valvular regurgitation as compared to with previous imaging (on echocardiography only) viii. new partial dehiscence of prosthetic valve (compared with previous imaging)	**OR**	At least **one** of the following 18 F-fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) imaging test(s) that shows evidence of endocarditis[§]: ix. abnormal metabolic activity involving a native or prosthetic valve[‖], ascending aortic graft (with evidence of valve involvement), intracardiac device leads or other prosthetic material >3 months after cardiac surgery. x. abnormal metabolic activity ≤3 months after implantation of prosthetic valve[‖], ascending aortic graft (with evidence of valve involvement), intracardiac device leads or other prosthetic material.

- **NOT** Hip or Knee Prosthetics!!!
- Specific to the **Heart** and limited to:
  - Prosthetic or Biprosthetic valve
  - Endovascular pacemakers and/or ICDs (extra cardiac excluded
  - Cardiac Support rings
  - Gortex or Synthetic patches used in AVR or septal defect repairs (atrial & ventricular)
  - Cardiovascular Implantable Electronic Devices
  - Synthetic grafts used in aortic root replacement
  - LVADs (left ventricular assist device)

Knowledge Check

Is the following imaging study definitive, equivocal or negative?

Moderate amount of stool within the ascending colon. Moderate diffuse wall thickening with mucosal enhancement relating to the remaining descending colon noted with mild peri-colonic fat stranding and hyperemia compatible with nonspecific colitis. Infectious colitis is also in the differential.

1. Definitive
2. Equivocal
3. Negative
4. Ummm.....???

Knowledge Check

Is the following imaging study definitive, equivocal or negative?

Moderate amount of stool within the ascending colon. Moderate diffuse wall thickening with mucosal enhancement relating to the remaining descending colon noted with mild peri-colonic fat stranding and hyperemia compatible with nonspecific colitis. Infectious colitis is also in the differential.

1. Definitive
2. **Equivocal** ✓
3. Negative
4. Ummm.....???

Nonspecific colitis is negative for infection, however, " infectious colitis in the differential" is equivocal for infection. NOTE: Equivocal Imaging requires clinical correlation to use with a site-specific infection criteria (ex. GIT 2d -imaging test evidence definitive for gastrointestinal infection, **which if equivocal is supported by clinical correlation, specifically, physician or physician designee documentation of antimicrobial treatment for gastrointestinal tract infection.**

Gross Anatomic Evidence of Infection

Key Terms Chapter 16:

Gross anatomic evidence of infection is evidence of infection elicited or visualized on physical examination or observed during an invasive procedure. This includes findings elicited on physical examination of a patient during admission or subsequent assessments of the patient and may include findings noted during a medical/invasive procedure, dependent upon the location of the infection as well as the NHSN infection criterion. **NOTE**: Symptoms are not considered gross anatomic evidence of infection when noted on physical exam. Symptoms are a separate element of a specific infection criterion where specified

- JNT 2 - *evidence of joint or bursa infection on gross anatomic exam*
- JNT 3 - *Patient has a suspected joint or bursa infection and two of the following signs or symptoms: swelling, pain or tenderness, heat, evidence of effusion or limitation of motion*

Certain infection criteria require specific language for gross anatomic evidence of infection:

- BONE 2 - Patient has evidence of **osteomyelitis** on gross anatomic exam
- MED 2 - Patient has evidence of **mediastinitis** on gross anatomic or histopathologic exam

NOTE: Gross anatomic evidence of infection is a specific element in site-specific infection criteria. It is not to be confused with an imaging element in a site-specific infection criteria.

Gross Anatomic Evidence of Infection

General examples of gross anatomic evidence of infection:

- A site-specific abscess will require an invasive procedure to 'see/visualize' the abscess
  - SA 2 - Patient has an abscess or other evidence of spinal infection on gross anatomic exam
  - LUNG 2 - Patient has a lung abscess or other evidence of infection on gross anatomic exam
- Visualization of pus or purulent drainage (includes from a drain)

**For NHSN surveillance purposes, documentation of "pus" or "purulence" are sufficient gross anatomic evidence of infection.

When the terms 'pus' or 'purulence' are not written in the medical record, NHSN has allowed determinations for purulence based off descriptors. Documentation that uses a **color descriptor** and a **consistency descriptor** (from the specified list below) **in combination** is acceptable to indicate 'purulence'.

Color: Yellow or Green
Consistency: Milky, Thick, Creamy, Opaque, Viscous

1 Color + 1 Consistency = Pus/Purulence

**The following cannot be used to define gross anatomic evidence of infection:
'Cloudy', 'turbid', 'murky' or the odor of a wound

NOTE: Gross anatomic evidence of infection is a specific element in site-specific infection criteria. It is not to be confused with an imaging element in a site-specific infection criteria.

Knowledge Check

Which of the following is acceptable gross anatomic evidence of infection?

.

1. Imaging study r/o infectious colitis
2. Intraabdominal drainage –thick & yellow
3. Abscess noted during I&D
4. Ankle wound with green drainage

Knowledge Check

Which of the following is acceptable gross anatomic evidence of infection?

.

1. Imaging study r/o infectious colitis
2. **Intraabdominal drainage–thick & yellow**
3. **Abscess noted during I&D**
4. Ankle wound with green drainage

Gross anatomic evidence of infection:
Seen by the ‘eyes’

Meningeal and Cranial Nerve Signs

Key Terms Chapter 16

NHSN uses standard Medical Dictionary definitions for meningeal and cranial nerve signs. Generally, if an MD documents in the patient record/notes the patient has meningeal signs or cranial nerve signs, this is accepted for surveillance purposes. NHSN recognizes that neonates may not display meningeal and cranial nerve signs specified in the MEN infection criteria; a neonatologist or neurologist opinion the neonate has meningeal or cranial nerve signs is sufficient to meet MEN 3ii or 3iii. The NHSN Neonatal workgroup has revised the age-specific meningitis criteria in patients < 12 months (tentative ETA for publication 2027).

Traditional clinical signs of meningeal irritation include:
(1) Brudzinski signs (chin to chest evokes hip flexion);
(2) Kernig sign (resistance to knee extension evokes pain in hamstrings);
(3) Nuchal rigidity

There are 12 cranial nerves and depending on which ones are impacted the patient could have different signs.

NOTE: Meningeal and/or cranial nerve signs may differ for adult and neonates.

Osteomyelitis (BONE) and Endocarditis (ENDO) Secondary BSI guidance

- The BONE or ENDO **Infection Window Period (IWP)** is defined as the 21 days during which all site-specific infection criteria must be met. It includes the date the first positive diagnostic test that is used as an element of the BONE or ENDO criterion was obtained, the 10 calendars days before, and the 10 calendar days after first diagnostic test.
- The **RIT** for BONE or ENDO is extended to include the remainder of the patient's current admission.
- When meeting BONE or ENDO definition, the **secondary BSI attribution period (SBAP)** includes the 21-day **IWP** and all subsequent days of the patient's **current admission**.

o As a result of this lengthy secondary BSI attribution period, secondary BSI pathogen assignment for BONE or ENDO is limited to organism(s) identified in blood specimen that match the organism(s) used to meet the site-specific definition.

NOTE: The Infection Window Period is lengthened for to accommodate the extended diagnostic timeframe that is frequently required to reach a clinical determination

Organism Concepts for Secondary BSI determinations

Organisms that primarily cause community-associated infections and are not known to (or rarely) cause healthcare-associated infections, are excluded and cannot be used to meet any NHSN definition -- also cannot be a secondary BSI organism:

- Fungi: Blastomyces, Histoplasma, Coccidioides, Paracoccidioides, Cryptococcus, Pneumocystis
- Vector-borne bacteria: Anaplasma spp., Ehrlichia spp., Borrelia spp., Rickettsia spp

Organisms belonging to the following genera are excluded as LCBI pathogens but are eligible for use in secondary BSI determinations: Salmonella, Shigella, Yersinia, Campylobacter, Listeria, Vibrio, STEC: Shiga toxin-producing E. coli, ETEC: Enterotoxigenic E. coli, EPEC: Enteropathogenic E. coli, EIEC: Enteroinvasive E. coli, EAEC: Enteroaggregative E. coli, DAEC: Diffusely adherent E. coli, C. difficile, or Giardia.

Any yeast or yeast species is excluded from meeting a Urinary Tract Infection criteria, thus, yeast identified in blood cannot be a secondary BSI to a primary UTI.

Organisms are reported as identified in the NHSN Terminology Browser

General Concepts for Secondary BSI determinations

- The organism in the positive blood culture must be eligible for use in the site-specific infection criteria
  - Example: IAB criteria 2b: organism(s) identified from blood by a culture or NCT; The organism(s) identified in the blood must contain at least one MBI organism from the NHSN Terminology Browser.
  - Example: Pneumonia - Any coagulase-negative Staphylococcus species, any Enterococcus species, and any Candida species or yeast not otherwise specified that are identified from blood cannot be deemed secondary to a PNEU event unless the organism was also identified from lung tissue or pleural fluid .... this applies when meeting PNU2 or when meeting PNU3 (for patients meeting the immunocompromised definition)
- Secondary BSIs do NOT set an RIT..... **Primary infections set the RIT**
- A positive blood culture on admission does NOT automatically set a BSI RIT
- It is necessary to determine if a +BC collected in the POA timeframe is a primary or secondary BSI to identify whether RIT guidance can be applied to *subsequent +BC* in the HAI timeframe

NOTE: Check individual infection criteria and footnotes regarding organism eligibility

Knowledge Check

All positive blood cultures should be reviewed for a secondary BSI determination?

.

1. True – organism identified is not relevant
2. True – limited to +BC in the HAI timeframe
3. True – except yeast in all cases
4. True – if the organism identified in blood is eligible for the primary site of infection under investigation

?

Secondary BSI determinations

Knowledge Check

All positive blood cultures should be reviewed for a secondary BSI determination?

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1. True – organism identified is not relevant
2. True – limited to +BC in the HAI timeframe
3. True – except yeast in all cases
4. **True – if the organism identified in blood is eligible for the primary site of infection under investigation**

A secondary BSI determination rests on the organism identified in blood and the specific site infection criteria

Secondary BSI Scenarios

A bloodstream infection can only be determined secondary to another site of infection IF:

A site-specific definition is met - an NHSN Surveillance Definition for Specific Types of Infections (defined in Chapter 17, or UTI, PNEU or SSI definition) …….AND

Scenario 1:

At least one organism from the blood specimen matches an organism identified from the site-specific specimen used as an element to meet the NHSN site-specific infection criterion (POSITIVE CULTURE) and the blood specimen is collected in the secondary BSI attribution period (infection window period + repeat infection timeframe).

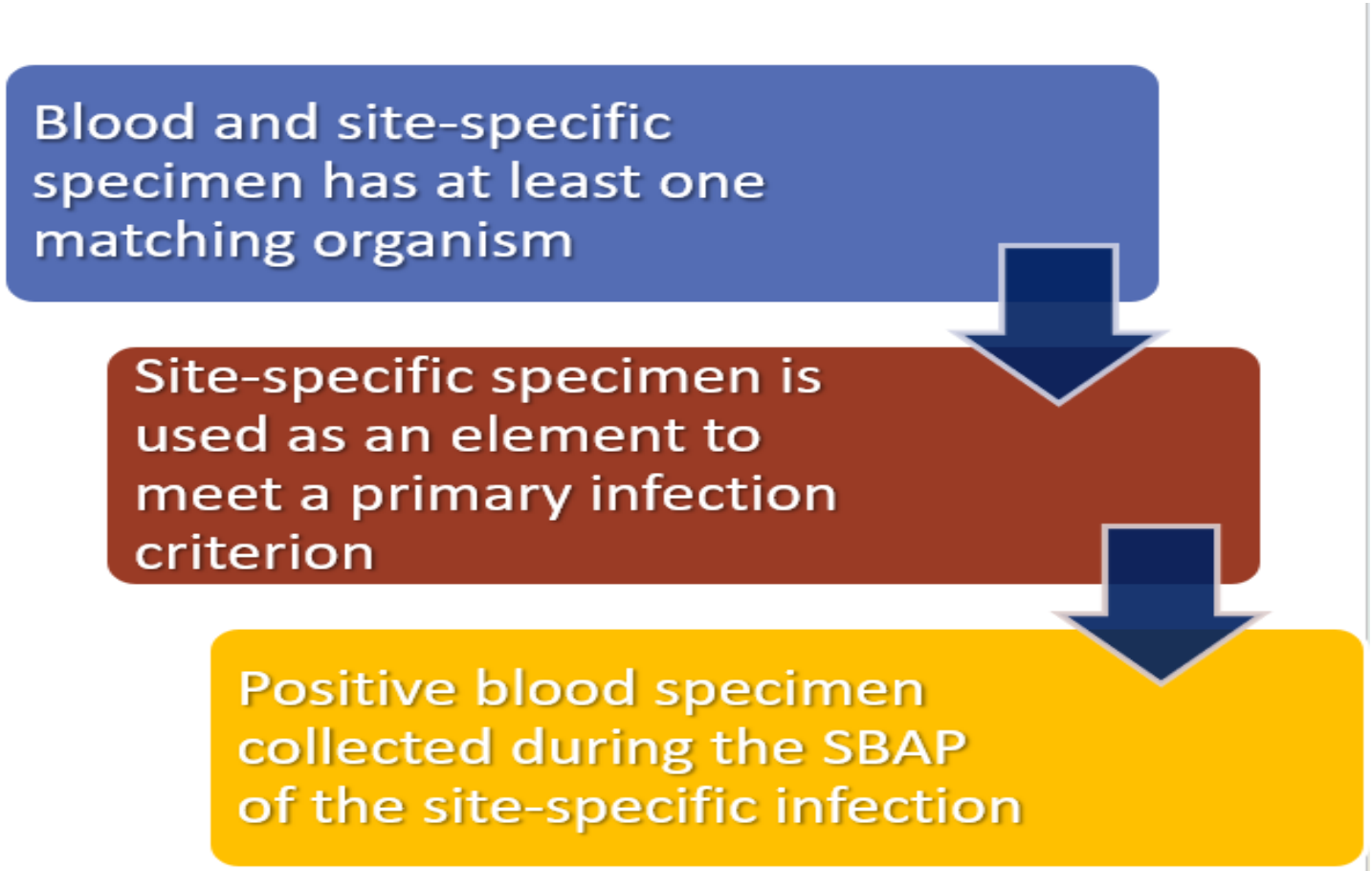
OR

Scenario 2:

An organism identified in the blood specimen is an element used to meet the NHSN site-specific infection criterion and therefore is collected during the site-specific infection window period.

Scenario 1 requires a site-specific positive culture

Scenario 1:



Scenario 1 requires a site-specific positive culture

Applying Scenario 1:

Admit date: 2/1/2026

Hospital Day/Date	First Diagnostic Test
1. - 2/1/2026 - Admit Date	
2. - 2/2/2026	
3. - 2/3/2026	
4. - 2/4/2026	✓
5. - 2/5/2026	
6. - 2/6/2026	
7. - 2/7/2026	
8. - 2/8/2026	
9. - 2/9/2026	
10. - 2/10/2026	
11. - 2/11/2026	
12. - 2/12/2026	

Admit date: 2/1/2026

Hospital Day/Date	First Diagnostic Test	Infection Window Period (*)	Date of Event	Repeat Infection Timeframe (*)	Secondary BSI Attribution Period (*)
1. - 2/1/2026 - Admit Date			-		
2. - 2/2/2026			-		
3. - 2/3/2026			-		
4. - 2/4/2026	✓	CSF = Staph Aureus	- HAI		
5. - 2/5/2026			-		
6. - 2/6/2026		+BC = MRSA	-		
7. - 2/7/2026		+BC = MRSA			
8. - 2/8/2026			-		
9. - 2/9/2026			-		
10. - 2/10/2026			-		
11. - 2/11/2026			-		
12. - 2/12/2026			-		
13. - 2/13/2026			-		
14. - 2/14/2026			-		
15. - 2/15/2026			-		
16. - 2/16/2026			-		
17. - 2/17/2026			-		

MEN 1

+BC in SBAP matching organism

Scenario 1 requires a site-specific positive culture

Applying Scenario 1:

About Matching Organisms

- Antibiograms of the blood and isolates from potential primary sites of infection do not have to match for purposes of determining the source of BSIs (see "matching organisms" below).
- A **matching organism** is defined as one of the following:

1. If genus and species are identified in both specimens, they must be the same.

Examples below are considered matching:

- MRSA wound culture and MSSA blood culture
- Enterococcus faecalis and Enterococcus faecalis (VRE)
- Klebsiella pneumoniae and Klebsiella pneumoniae (CRE)

? Additional examples of matching organisms are found in Chapter 17, pg. 4

Knowledge Check

Mr. Bobby Pinn presents with open wound, culture = Kl. Pneumoniae; Blood culture on admission reported as ESBL Kl. pneumoniae

1. Yes – both cultures are positive, that's all that matters
2. No – on admission cultures don't count
3. No – these are different organisms
4. Yes - both cultures are Kl. pneumoniae

Does the organism in blood match the organism in wound culture?

Knowledge Check

Mr. Bobby Pinn presents with open wound, culture = Kl. Pneumoniae; Blood culture on admission reported as ESBL Kl. Pneumoniae

1. Yes -both cultures are positive, that's all that matters
2. No – on admission cultures don't count
3. No – these are different organisms
4. **Yes - both cultures are Kl. pneumoniae**

Rationale: Genus and species of organisms are a match; susceptibility patterns are not used to identify matching organisms

Scenario 2:

Organism in the blood is an element used to meet the primary-site infection criterion

Blood specimen is collected in the IWP (or surveillance period if a surgical site infection or SSI)

Scenario 2 is not dependent on a site-specific positive culture

Applying Scenario 2:

Admit date: 2/3/2026

Hospital Day/Date	First Diagnostic Test	Infection Window Period (*)	Date of Event
4. - 2/6/2026		☐	-
5. - 2/7/2026		☐	-
6. - 2/8/2026		☐	-
7. - 2/9/2026	✓	☑ CT abdomen - abscess	-
8. - 2/10/2026		☐	-
9. - 2/11/2026		☐	-
10. - 2/12/2026		☐	-
11. - 2/13/2026			-

Admit date: 2/3/2026

Hospital Day/Date	First Diagnostic Test	Infection Window Period (*)	Date of Event
4. - 2/6/2026		☐	-
5. - 2/7/2026		☐	-
6. - 2/8/2026		☐	-
7. - 2/9/2026	✓	☑ CT of abdomen - abscess	- HAI
8. - 2/10/2026		☐ fever	-
9. - 2/11/2026		☐ hypotension	-
10. - 2/12/2026		☐ +BC with E. coli	-
11. - 2/13/2026			-
12. - 2/14/2026			-
13. - 2/15/2026			-
14. - 2/16/2026			-
15. - 2/17/2026			

Scenario 2 - IAB 3b includes blood as an element - in the IWP

Knowledge Check

Ms. May Flowers is hospitalized with pancreatitis, N/V. On HD 5, sudden increase in abdominal pain with spike in temp. BC x2 shows E.coli, pt. to OR for exploratory surgery - intraabdominal abscess is noted.

1. Maybe – E. coli is a ‘gut bug’ probably related to pancreatitis
2. Yes – the +BC occur the same day as increase in abdominal pain and fever
3. Yes – It looks like everything ties together
4. Yes – gross anatomic evidence of IAB and +BC in the same IWP will meet IAB criteria 2b

Is the E. Coli blood culture a secondary BSI?

Knowledge Check

Ms. May Flowers is hospitalized with pancreatitis, N/V. On HD 5, sudden increase in abdominal pain with spike in temp. BC x2 shows E.coli , pt. to OR for exploratory surgery - intraabdominal abscess found.

1. Maybe – E. coli is a ‘gut bug’ probably related to pancreatitis
2. Yes – the +BC occur the same day as increase in abdominal pain and fever
3. Yes – It looks like everything ties together
4. **Yes – gross anatomic evidence of IAB and +BC with MBI organism in the same IWP meets IAB criteria 2b**

IAB 2b . Patient has abscess or other evidence of intraabdominal infection on gross anatomic exam. AND organism(s) identified from blood by a culture or non-culture based microbiologic testing method, The organism(s) identified in the blood must contain at least one MBI organism from the NHSN Terminology Browser.

Scenario 2 -

Organism in the blood is an element used to meet the primary-site infection criterion

Blood specimen is collected in the IWP (or surveillance period if a surgical site infection or SSI)

Admit date: 2/1/2026

Hospital Day/Date	First Diagnostic Test	Infection Window Period (*)	
2. - 2/2/2026		☐	
3. - 2/3/2026		☐	
4. - 2/4/2026		☐	
5. - 2/5/2026	✓	☑	pain, fever, +BC with E. coli
6. - 2/6/2026		☐	abscess 'seen' during surgery
7. - 2/7/2026		☐	
8. - 2/8/2026		☐	
9. - 2/9/2026			

IAB 2b

The NEC Exception

NEC Exception

A BSI is considered secondary to NEC if the patient meets one of the two NEC criterion below

AND

an organism identified from blood specimen collected during the secondary BSI attribution period is an **LCBI pathogen**, or the same common commensal is identified from two or more blood specimens drawn on separate occasions collected on the same or consecutive calendar days.

Necrotizing enterocolitis in infants (≤ 1 year of age) must meet one of the following criteria:

1. Infant has at least ***one*** of the clinical and ***one*** of the imaging test findings from the lists below:

   At least *one* clinical sign:

   a. bilious aspirate** (see **Note**)
   b. vomiting
   c. abdominal distention
   d. occult or gross blood in stools (with no rectal fissure)

   And at least *one* imaging test finding which if equivocal is supported by clinical correlation (specifically, physician documentation or physician designee of antimicrobial treatment for NEC):

   a. Pneumatosis intestinalis
   b. Portal venous gas (Hepatobiliary gas)
   c. Pneumoperitoneum

   ****Note:** Bilious aspirate from a transpyloric feeding tube should be excluded

2. Surgical NEC: Infant has at least ***one*** of the following surgical findings:
   a. surgical evidence of extensive bowel necrosis (>2 cm of bowel affected)
   b. surgical evidence of pneumatosis intestinalis with or without intestinal perforation

Knowledge Check

Baby Stepps is born 10 weeks prematurely; week 4 of life baby has noticeably distended abdomen and low grade temp. Imaging study shows some necrosis of the bowel, suspicious for NEC. To OR where pneumatosis intestinalis is identified during surgery. 2 days later, +BC with *B. fragilis* isolated

1. Maybe – the imaging study doesn't r/o NEC
2. Yes – the +BC and distended abdomen are sufficient to diagnose NEC
3. Yes – Surgical NEC criteria 2b is met
4. Yes – the +BC is identified in the SBAP of NEC

Can this +BC be deemed secondary to NEC?

Knowledge Check

Baby Stepps is born 10 weeks prematurely; week 4 of life baby has noticeably distended abdomen and low-grade temp. Imaging study shows some necrosis of the bowel, suspicious for NEC. To OR where pneumatosis intestinalis is identified during surgery. 2 days later, +BC with *B. fragilis* isolated

1. Maybe – the imaging study doesn't r/o NEC
2. Yes – the +BC and distended abdomen are sufficient to diagnose NEC
3. **Yes – Surgical NEC criteria 2b is met**
4. **Yes – the +BC is identified in the SBAP of NEC**

Can this +BC be deemed secondary to NEC?

Summary – Resources for Secondary BSI

- The following secondary BSI attribution resources are:
  - Chapter 2
  - Chapter 4 (Secondary BSI Guide)
    - Table B1
  - Chapter 17
  - HAI Checklists
  - HAI/POA Worksheet Generator

- There are two scenarios to apply secondary BSI attribution and one exception. They are as follows:
  - Scenario 1
  - Scenario 2
  - NEC Exception

Summary – Secondary BSI considerations

- A positive blood culture on admission does NOT always set a BSI RIT.
  - It is necessary to determine if the *POA* BSI was primary or secondary to determine if the *subsequent* BSI must be investigated as possible LCBI.
- You may be able to capture non-matching organism in the SBAP if a matching organism is in the same blood specimen.
- A secondary BSI determination rests on the organism identified in blood and the specific site infection criteria
- A site-specific infection criteria must be met before apply secondary BSI scenario 1 or scenario 2

When in doubt, consult NHSN for assistance

Thank you.

For any questions or concerns, contact the NHSN Helpdesk

- **NHSN-ServiceNow** to submit questions to the NHSN Help Desk.
- Access new portal at **https://servicedesk.cdc.gov/nhsncsp** .
- If you do not have a SAMS login, or are unable to access ServiceNow, you can still email the NHSN Help Desk at nhsn@cdc.gov.

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 https://www.cdc.gov/
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