



The Devil is in the Details: Applying CLABSI and SSI Criteria Accurately

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Objectives

1. State the locations of the necessary tools to correctly identify central line-associated bloodstream infections (CLABSI) and surgical site infections (SSI) within their healthcare facilities.
2. Utilize the NHSN healthcare-associated infections criteria and definitions to correctly identify CLABSIs and SSIs when applied to case studies.

CDC/NHSN surveillance definition of health care–associated infection and criteria for specific types of infections in the acute care setting

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BACKGROUND

Since 1988, the Centers for Disease Control and Prevention (CDC) has published 2 articles in which nos-

population for which clinical sepsis is used has been restricted to patients ≤ 1 year old. Another example is that incisional SSI descriptions have been expanded to specify whether an SSI affects the primary or a secondary in-

Horan TC, Andrus ML, Dudeck MA. CDC/NHSN surveillance definition of healthcare-associated infection and criteria for specific types of infections in the acute care setting. *Am J Infect Control* 2008;36:309-32.

<http://www.cdc.gov/ncidod/dhqp/pdf/NNIS/NosInfDefinitions.pdf>



CLABSI Case Studies



Case 1



- James is a 28 year old patient with a central line who is 3 days post colon surgery on April 1. He spikes a fever and has blood cultures x2 drawn; on April 2, 1 set is negative, 1 bottle from the second set is positive for *Bacillus cereus*. His doctor orders antibiotics and notes “postop sepsis” in the chart.

How should this be reported?

- Not reported. Does not meet any criteria for BSI- common skin contaminant recovered from one bottle only

LCBI Criterion 2

- Patient has at least one of the following signs or symptoms: fever ($>38^{\circ}\text{C}$), chills or hypotension

And

- Signs and symptoms and positive laboratory results are not related to an infection at another site

And

- Common skin contaminant (i.e. diphtheroids [*Corynebacterium* spp.], *Bacillus* [not *B. anthracis*] spp., *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp.) is cultured from two or more blood cultures drawn on separate occasions



Case 1



- On April 2nd, another set of blood cultures are collected and 1/2 bottles grow *B. cereus*. Susceptibilities of the 2 organisms are shown:

Organism	Azithromycin	Ceftriaxone	Gentamycin	Piperacillin	Vancomycin
#1	S	R	S	R	S
#2	S	S	S	R	S



Case 1



- Is this a BSI? *Yes*
- If yes, what criteria?
- If yes, what date of onset? *April, 1- first date of onset*

LCBI Criterion 2- fever >38°C, not related to another site, same CSC cultured from ≥ 2 blood cultures drawn on separate occasions.

Antibiograms do not differ for 2 or more antibiotics.

Case 1



The phrase “*two or more blood cultures (BC) drawn on separate occasions*” means:

1. That blood from at least two blood draws were collected within two days of each other, and

If the organisms from the cultures have antibiograms that are different for two or more antimicrobial agents, it is assumed that the organisms are not the same.

Organism	Azithromycin	Ceftriaxone	Gentamycin	Piperacillin	Vancomycin
#1	S	R	S	R	S
#2	S	S	S	R	S

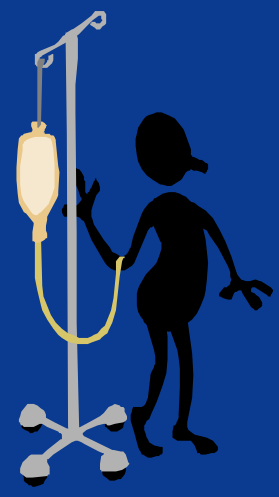


Case 2

- A patient with a PICC placed in another facility has been in your hospital for the past week and now has a blood culture growing *Acinetobacter baumannii*.

Is this a BSI? If so, what criteria?

Yes, If no other site of infection for this organism, Criteria 1



Patient has a recognized pathogen cultured from one or more blood cultures and organism cultured from blood is not related to an infection at another site.



Case 2



Should it be attributed to your hospital or to the facility that placed the PICC?

Attributed to your hospital- not present or incubating at the time of admission- outside the 48 hour rule for transfer



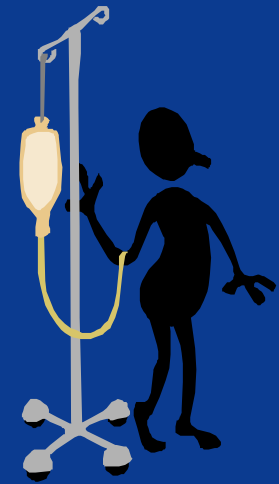


Case 2

- What if the patient also had an increase in his sputum, and developed rales, a fever of 38 C and has two chest xrays with increased consolidation in his right lower lobe, in the two days before his blood culture?

Is this a BSI?

Why or why not?



No. Patient now meets criteria of a PNU2:



PNU2

Patient without underlying diseases^{1,2} has 1 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in ≤ 1 y.o.

AND

At least one of the following:

- Fever ($> 38^{\circ} \text{C} / 100.4^{\circ} \text{F}$) with no other cause
- Leukopenia ($< 4,000 \text{ WBC/mm}^3$) or leukocytosis ($\geq 12,000 \text{ WBC/mm}^3$)
- Altered mental status with no other cause, in > 70 y.o.

AND

At least one of the following:

- New onset of purulent sputum, or change in character of sputum, or \uparrow respiratory secretions, or \uparrow suctioning requirements
- New onset or worsening cough, or dyspnea, or tachypnea
- Rales or bronchial breath sounds
- Worsening gas exchange (e.g., O_2 desats [e.g., $\text{PaO}_2/\text{FiO}_2 \leq 240$], $\uparrow \text{O}_2$ req., or \uparrow ventilation demand)

AND

At least one of the following:

- Positive blood culture not related to another infection⁹
- Positive pleural fluid culture
- Positive quantitative culture⁹ from minimally contaminated LRT specimen (e.g., BAL or protected specimen brushing)
- $\geq 5\%$ BAL-obtained cells contain intracellular bacteria on direct microscopic exam
- Histopathologic exam shows one of the following:
 - Abscess formation or foci of consolidation with intense PMN accumulation in bronchioles and alveoli
 - Positive quantitative culture⁹ of lung parenchyma
 - Evidence of lung parenchyma invasion by fungal hyphae or pseudohyphae



“Not Related to Infection at Another Site”

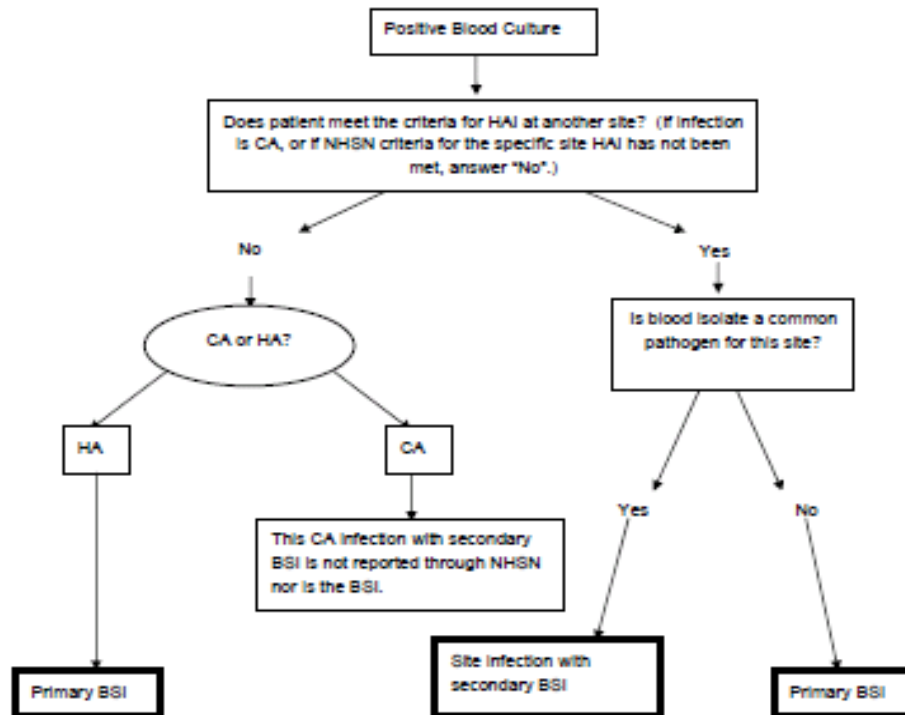
- Requires an infection by CDC/NHSN definitions (Chapter 17) at another site
- They must be related
 - Same organism if cultured
 - Logical organism if no culture required for the definition

Patient has a recognized pathogen cultured from one or more blood cultures and organism cultured from blood is not related to an infection at another site.

What is the meaning of the statement "not related to infection at another site" in relation to a positive blood culture?

The goal of NHSN (CDC) infection site criteria is to identify and consistently categorize infections that are healthcare-associated into major and specific infection sites or types. Several of the criteria include the caveat that signs, symptoms, and laboratory findings may not be related to infection at another site. When assessing positive blood cultures in particular, one must be sure that there is no other CDC-defined primary source of HAI that may have seeded the bloodstream secondarily, otherwise the infection may be misclassified as a primary BSI or erroneously associated with the use of a central line.

If the CDC criteria for the remote infection require a culture, then the organism(s) cultured from that site must match the organism(s) in the blood culture. In instances where a culture of the involved site is not required for NHSN criteria, and no such culture is collected, it may be necessary to use clinical judgment regarding the likelihood of it causing a secondary blood stream infection (BSI). In these instances, the following guidance may be used to help determine the relatedness of remote sources of infection to a positive blood culture:



BSI = bloodstream infection
HAI = healthcare-associated infection
CA = community acquired

NHSN Newsletter



Case 3

An 81 year old end stage renal patient is admitted to the surgical floor following a ORIF for hip fracture. She has a peripheral IV inserted in the OR and a permanent central line for HD that she was admitted with. She has received hemodialysis twice this week on your unit from contracting nurses from a hemodialysis agency your facility deals with. Other than for hemodialysis her permanent central line has not been accessed in your facility.

The day after her last dialysis session, she becomes disoriented and hypotensive. Blood cultures x 2 were drawn and 2 of 4 bottles grew both Micrococci and coagulase-negative staphylococci.

Is this a BSI?



Case 3

Is this a BSI?

Yes- LCBI

If so is it a CLABSI?

Yes- Central line in place in 48 hours prior to event onset

Criteria?

Criterion 2- hypotension and CSC from ≥ 2 blood cultures

If so, is it attributable to your facility?

Yes. Facilities are responsible for the care provided in their patient care units.



Case 3

Let's say that the scenario is unchanged except that the patient had been going to a dialysis unit within your facility for dialysis, while a patient on your surgical floor.

To which unit is the CLABSI now attributed?

The surgical floor. Because the hemodialysis is not a bedded location, there are no summary data collected there, and therefore the CLABSI cannot be attributed to this location.



Case 4

- 85-year old female admitted from an extended care facility. Recent onset confusion and urinary incontinence. PMH: Hypertension, recent CVA, Insulin-dependant diabetic
- Day 1: Temp 37.5 C, pan cultured (blood, urine, sputum) before empiric antibiotics begun. Foley catheter inserted. Blood sugar 198. PICC line inserted.



Case 4



- Day 3: All cultures negative, antibiotics D/Cd. Blood sugar remains unstable.
- Day 6: Temp 39.5 . Noted to have suprapubic tenderness and shaking chills. Pan cultures repeated, antibiotics restarted, CXR clear. PICC d/c and tip cultured.
- Day 8: Urine culture $\geq 10^5$ MRSA. Blood culture 2 of 3 and PICC tip positive for MRSA. All antibiograms match.

Case 4



- Day 10: Improving, urine clear, transferred back to long-term care on antibiotics.
- Did the patient have a CLABSI?
 - *No- Secondary BSI. Positive blood culture due to other recognized cause- UTI.*
- Was this a HAI UTI attributable to your facility? If so, what type and criterion?
 - *Yes, SUTI 1a*
 - *Fever, (suprapubic tenderness) urine culture $\geq 10^5$ with no more than 2 species; catheter in place*



Case 5

- 8/14- A 41 year old female presents to the Emergency Room in diabetic coma and with anemia. She has a subclavian catheter inserted in the Emergency Room. The next day, in the ICU, she has a midline catheter inserted and receives blood transfusions.
- 8/17- she develops fever to 39 C, and shaking chills. 2 sets of blood cultures sent.
- 8/19- blood cultures positive for *Pseudomonas aeruginosa*. Neither insertion site shows inflammation and there is no other documented infection.



Case 5

- Is there a BSI? If so, what type?
 - *Yes. LCBI*
- Criterion?
 - *Criterion 1*
 - *Pathogen cultured from 1 or more blood cultures*
- If so, which line should the BSI be attributed to?
 - *The subclavian is the only central line in place. However, NHSN does not require the location of the central line.*



Case 5

- What unit should be indicated for the Location of Device Insertion field?
 - *The Emergency Department. However, this field is optional. CLABSI will be attributed to the ICU since ED is not an inpatient location and no denominator data are collected there.*

Case 5

Let's change this scenario and say that on 9/17 the patient's subclavian catheter site is red and has small amount of pus present. Does this change your decision?

No. This patient still has a CLABSI.

CVS-CARDIOVASCULAR SYSTEM INFECTION
VASC-Arterial or venous infection

Arterial or venous infection must meet at least 1 of

4. Patient has purulent drainage at involved vascular site
and
blood culture *not* done or *no* organisms cultured from blood.

Reporting instructions

- Report infections of an arteriovenous graft, shunt, or fistula or intravascular cannulation site without organisms cultured from blood as CVS-VASC.
- Report intravascular infections with organisms cultured from the blood as BSI-LCBI.

Case 6



- 6/4-49 year old diabetic patient admitted in diabetic coma. Patient's left foot painful, swollen, red and warm to touch, but without drainage. Subclavian line inserted in E.R. Patient admitted to MICU. Temp 37.8 C. Antibiotics begun for "cellulitis"
- 6/6 Temp 38.2 C. Hypotension. Blood cultures x 2 sets collected.
- 6/7 *Staph aureus* cultured from blood x2.



Case 6



Does this patient have a BSI? Reportable to NHSN?

No.

Why or Why not?

The BSI is secondary to a community-acquired infection of the skin.

SST-SKIN AND SOFT TISSUE INFECTION

SKIN-Skin

Skin infections must meet at least 1 of the following criteria:

1. Patient has purulent drainage, pustules, vesicles, or boils.
2. Patient has at least 2 of the following signs or symptoms with no other recognized cause: pain or tenderness, localized swelling, redness, or heat

and

at least 1 of the following:

- a. organisms cultured from aspirate or drainage from affected site; if organisms are normal skin flora (ie, diphtheroids [*Corynebacterium* spp], *Bacillus* [not *B anthracis*] spp, *Propionibacterium* spp, coagulase-negative staphylococci [including *S epidermidis*], viridans group streptococci, *Aerococcus* spp, *Micrococcus* spp), they must be a pure culture
- b. organisms cultured from blood
- c. positive antigen test performed on infected tissue or blood (eg, herpes simplex, varicella zoster, *H influenzae*, *N meningitidis*)
- d. multinucleated giant cells seen on microscopic examination of affected tissue
- e. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen.

Case 6



Case 7

- Day 1: 59 year old male, admitted with gastric cancer. Central line placed day of admission for total parenteral nutrition.
- Day 2: Partial gastrectomy performed.
- Day 6: Patient progressing well until fever to 101.3. Blood cultures sent.
- Day 7: Increasing abdominal pain. CT Scan of abdomen shows small fluid collection posterior to stomach. Fluid collection fully drained by ultrasound guided needle aspiration and fluid sent for culture.

Case 7



- Day 8: Blood cultures 1/2 positive for *Enterobacter cloacae*. Abdominal fluid growing gram positive cocci. Antibiotics begun.
- Day 9: Abdominal culture: MSSA

Does this patient have a CLABSI?

Why or why not?

Yes

Patient has an intraabominal abscess, however the organism in the blood was not recovered from the abscess.

Case 7



IAB-Intraabdominal, not specified elsewhere including gallbladder, bile ducts, liver (excluding viral hepatitis), spleen, pancreas, peritoneum, subphrenic or subdiaphragmatic space, or other intraabdominal tissue or area not specified elsewhere

Intraabdominal infections must meet at least 1 of the following criteria:

tion or histopathologic examination.

3. Patient has at least 2 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), nausea, vomiting, abdominal pain, or jaundice

and

at least 1 of the following:

- organisms cultured from drainage from surgically placed drain (eg, closed suction drainage system, open drain, T-tube drain)
- organisms seen on Gram's stain of drainage or tissue obtained during surgical operation or needle aspiration

- organisms cultured from blood and radiographic evidence of infection (eg, abnormal findings on ultrasound, CT scan, MRI, or radiolabel scans [gallium, technetium, etc] or on abdominal x-ray).

Case 7



Cultures collected from sites to determine the primary or secondary status of a concurrent blood culture must contain the same organism as the blood.

Therefore patient also has an organ/space SSI with S.aureus.



SSI Case Studies

Case 8



- Patient is admitted to the hospital on 04/12 for elective surgery and active MRSA screening test is positive.
- On the same day, patient undergoes small bowel resection (SB).
- Postoperative course is unremarkable patient discharged on 4/16.
- On 4/29, patient is readmitted with a red, angry wound that is opened to the fascial level by the surgeon and is cultured.
- 4/30 culture positive for MRSA.

Case 8



Is this possible infection considered healthcare-associated?

Yes. Preoperative colonization does not prevent an infection from being healthcare associated.

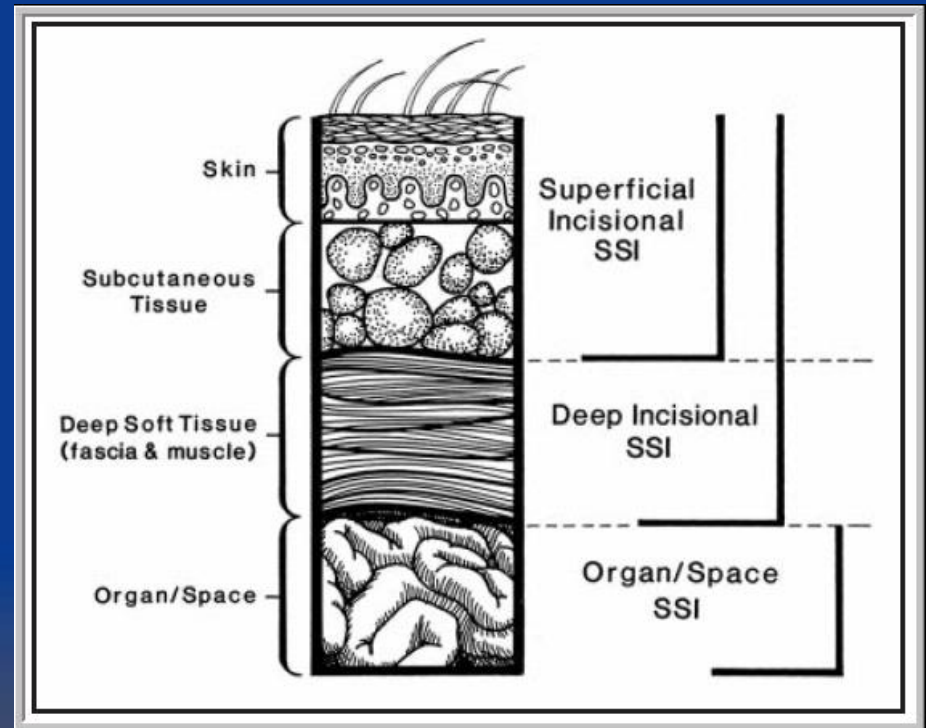
Case 8



If so, what type?

Superficial

Incisional Primary



If so, what is the date of onset?

4/29 or first symptom



Case 9

- Jane Doe had a spinal fusion (FUSN) on 1/22 performed
- 2/1-Increased back pain; Temp 38 C
- 2/2 MRI reveals abscess in the spinal epidural space
- Surgeon opened wound in the OR & drained abscess; specimen to lab for culture; notes ‘infected hematoma’; antibiotics begun for epidural abscess
- Culture positive for *Pseudomonas aeruginosa*

Case 9

- Is this an SSI?

Yes

- If so, what type?

Organ/Space SSI

Specific Type:

*SA Spinal abscess
without meningitis*

SA-Spinal abscess without meningitis

An abscess of the spinal epidural or subdural space, without involvement of the cerebrospinal fluid or adjacent bone structures, must meet at least 1 of the following criteria:

1. Patient has organisms cultured from abscess in the spinal epidural or subdural space.
2. Patient has an abscess in the spinal epidural or subdural space seen during a surgical operation or at autopsy or evidence of an abscess seen during a histopathologic examination.
3. Patient has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), back pain, focal tenderness, radiculitis, paraparesis, or paraplegia
and
at least 1 of the following:
 - a. organisms cultured from blood
 - b. radiographic evidence of a spinal abscess (eg, abnormal findings on myelography, ultrasound, CT scan, MRI, or other scans [gallium, technetium, etc]).*and*
if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.

Reporting instruction

- Report spinal abscess *with* meningitis as MEN.

Case 9 (Cont).



- Let's say that a culture of the CSF collected at the time of reop also was found to be positive for *Pse. Aer.* Does this change the type of SSI?

Yes! SSI-MEN

MEN-Meningitis or ventriculitis

Meningitis or ventriculitis must meet at least 1 of the following criteria:

- ✓ 1. Patient has organisms cultured from cerebrospinal fluid (CSF).
2. Patient has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), headache, stiff neck, meningeal signs, cranial nerve signs, or irritability
and
at least 1 of the following:
 - a. increased white cells, elevated protein, and/or decreased glucose in CSF
 - b. organisms seen on Gram's stain of CSF
 - c. organisms cultured from blood
 - d. positive antigen test of CSF, blood, or urine
 - e. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen*and*
if diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy.

3. Patient ≤ 1 year of age has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), headache, irritability,

Reporting Instructions

For a shunt infection **SSI-MENYI**
 ≤ 1 year of placement; if later or after manipulation/access of the shunt, report as CNS-MEN.

- ✓ Report meningoencephalitis as MEN.
- Report spinal abscess *with* meningitis as MEN.



Case 9

- Let's also say that the patient had a laminectomy (LAMI) done as an approach to the FUSN.
- If you are participating in SSI surveillance for both LAM and FUSN, what procedure(s) would be included in your surgical denominators?

FUSN only. Laminectomies performed as AN APPROACH to FUSN should not be coded as a separate LAMI.




Case 10

- 4/8 John Smith had a tunneled central line placed in the OR, due to failure of a hemodialysis fistula during an inpatient hospitalization. He was discharged and continued on outpatient hemodialysis using the line.
- 8/22 JS readmitted with redness and purulent discharge at the insertion site. Blood cultures are negative.



Case 10

- Would this be an SSI?
- Why or why not?



No. Because the device has been manipulated for therapeutic purposes, it is no longer an implant. Therefore any SSI must develop within 30 days of the surgery.

Implant

A nonhuman-derived object, material, or tissue that is permanently placed in a patient during an operative procedure and is not routinely manipulated for diagnostic or therapeutic purposes. Examples include: porcine or synthetic heart valves, mechanical heart, metal rods, mesh, sternal wires, screws, cements, and other devices.



Case 10

- If in addition to the signs/ symptoms listed, the blood culture was positive for MSSA, would this be called a BSI attributed to your facility?



Case 10

- *No. CDC/NHSN device-associated criteria (except Dialysis Events) are for inpatients only. It cannot be called a CLABSI within NHSN because all NHSN CLABSIs are healthcare-associated, not community-associated.*
- *The event may be reported through the NHSN DE module if your facility is participating in that module and the patient was receiving hemodialysis in one of your facility's outpatient dialysis units.*



Case 10 (Cont.)



- What if instead of a dialysis catheter, a ventricular shunt was placed? Let's say the shunt had not been manipulated/accessed and had been functioning fine.
- However, on 6/22 the patient is admitted with redness overlying the incision and it is opened subcutaneously by the surgeon and drained of milky fluid. (Surgery performed 4/08).

Case 10

- Is this an SSI?
- If so what type?
- If not, why not?

No, because this infection lies within the subcutaneous layer of tissue, it must appear within 30 days to meet criteria of a superficial SSI.

A **superficial incisional SSI** must meet one of the following criteria:

Infection occurs **within 30 days** after the operative procedure and involves only skin and subcutaneous tissue of the incision and patient has at least one of the following:

- purulent drainage from the superficial incision.
- organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
- at least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat, and superficial incision is deliberately opened by surgeon, and is culture-positive or not cultured. A culture-negative finding does not meet this criterion.
- diagnosis of superficial incisional SSI by the surgeon or attending physician.



Case 11

- A 66-year-old woman is admitted on Sept 10th as an inpatient, having recently noticed blood in her stools. Diagnostic investigation reveals a colon carcinoma.
- 9/11 – Admitted; hemicolectomy performed.
- 9/13 - Temperature up to 38.7°C, abdominal pain. Loculated fluid collection per U/S.



Case 12

- 9/14 - I&D of intraabdominal fluid collection ; fluid sent for culture. Empiric antibiotics begun.
- 9/16 – Fluid culture positive for *E.coli*.
- 9/18-Improved, discharged from hospital with PICC for IV antibiotics.

Case 12

- Is this an HAI?
- If so what type?

Yes

Organ/Space SSI

An organ/space SSI involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure. Specific sites are assigned to organ/space SSI to further identify the location of the infection. The table below lists the specific sites that must be used to differentiate organ/space SSI. An example is appendectomy with subsequent subdiaphragmatic abscess, which would be reported as an organ/space SSI at the intraabdominal specific site (SSI-IAB). Specific sites of organ/space (Table 2) have specific criteria which must be met in order to qualify as an NHSN event. These criteria are in addition to the general criteria for and can be found in Chapter 17.⁸

An organ/space SSI must meet one of the following criteria:

Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure

and

infection involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure

and

patient has at least one of the following:

- purulent drainage from a drain that is placed through a stab wound into the organ/space
- organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space
- an abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination
- diagnosis of an organ/space SSI by a surgeon or attending physician.

Case 12 (Cont.)



IAB-Intraabdominal, not specified elsewhere including gallbladder, bile ducts, liver (excluding viral hepatitis), spleen, pancreas, peritoneum, subphrenic or subdiaphragmatic space, or other intraabdominal tissue or area not specified elsewhere

Intraabdominal infections must meet at least 1 of the following criteria:

1. Patient has organisms cultured from purulent material from intraabdominal space obtained during a surgical operation or needle aspiration.
2. Patient has abscess or other evidence of intraabdominal infection seen during a surgical operation or histopathologic examination.
3. Patient has at least 2 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), nausea, vomiting, abdominal pain, or jaundice
and
at least 1 of the following:
 - a. organisms cultured from drainage from surgically placed drain (eg, closed suction drainage system, open drain, T-tube drain)
 - b. organisms seen on Gram's stain of drainage or tissue obtained during surgical operation or needle aspiration

What specific type of SSI is it?

Specific Type: IAB Criteria 2:

Patient has abscess or other evidence of intraabdominal infection seen during a surgical operation or histopathologic examination.



Case 12

- Let's change the scenario and say that at the time of the I & D, it was discovered that the patient had suffered an anastamotic leak from which the abscess developed.
- Does this change your determination of an SSI- IAB?



Case 12

No. Although an anastomotic leak can be a complication of surgery, the fact remains that this patient meets the criterion for an SSI. If the surgery had not been performed there would not have been an anastomotic leak and no SSI.



Case 13

- A 79-year-old male patient is admitted with a fractured neck of femur following a fall in a nursing home. On admission the nursing home reports that the patient has MRSA colonization. Consequently, while the patient is still in the emergency room, screening cultures are taken from the nose and groin.



Case 13

- Day 1 – HPRO completed. Antibiotic prophylaxis is administered peri-operatively.
- Day 2 - The patient is very confused. Temperature normal. Wound condition good.
- Day 3 -The results of the admission cultures of the nose and groin are positive for MRSA. The following entry is found in the patient’s notes: “Patient removed the dressing several times. Recurrent confused condition. Wound edges very red and taut.”



Case 13

- Day 5 - Entry in the patient's notes: "Abscess lanced by the attending surgeon". A wound culture sent to lab. Antibiotics begun.
- Day 6- Wound culture: MRSA
- Day 9 -Improvement in wound condition. Sent to Rehab.

Case 13



- Does this patient have an SSI?
- If so, what Type?
- If so, what is the date of the infection?

Yes. Although the patient may have strayed from standard protocol by removing the dressing, this does not negate the development of an SSI. It may represent an opportunity for improving nursing care.

*Superficial
Incisional
Primary*

*Day 3; date of first signs
of infection*



Case 14

- 7/7 Mrs. Jones has a saphenous endoscopic harvest and an internal mammary vein used for her CAB. The ICD codes as entered are 36.12 and 36.15, both CBGB and CBGC.
If the saphenous vein was harvested endoscopically, what NHSN operative procedure code(s) should be entered into NHSN?



Case 14

When a CBGB and a CBGC are done together on a patient on the same trip to the OR, report it as a CBGB only. That way, if the donor site incisions should get infected, you can report it as SIS or DIS. (Use of the endoscope is irrelevant for these purposes).



Case 14

- If Mrs. Jones develops both a leg donor site infection and a chest incision infection, do you count both as infections or only one?
- If only one, which one?

Count both

Chest as a primary site SIP, DIP or Organ/Space

Leg as a secondary site SIS, or DIS



Case 15



- Day 3: Mr. H. an insulin dependent diabetic is 3 days post lumbar spinal fusion L2-L4. He has a productive cough and low grade temp. His blood sugar has been in the high 200's.
- Day 5: Cough continues despite pulmonary toilet and sputum now yellowish green and increased in amount. Temperature 38.4°C. Surgical incision is reddened, warm and tight. Insulin dosage has been increased in response to the elevated blood glucose levels.

Case 15



- Day 6: While ambulating and coughing, Mr. H's lumbar wound dehisces. He is taken back to the OR emergently for exploration and closure. OR note states that moderate amount of purulent material encountered in epidural space was sent for culture. Wound copiously irrigated and closed over drain.

Case 15



Is this an SSI?

If so, what type? If not, why?

Yes.

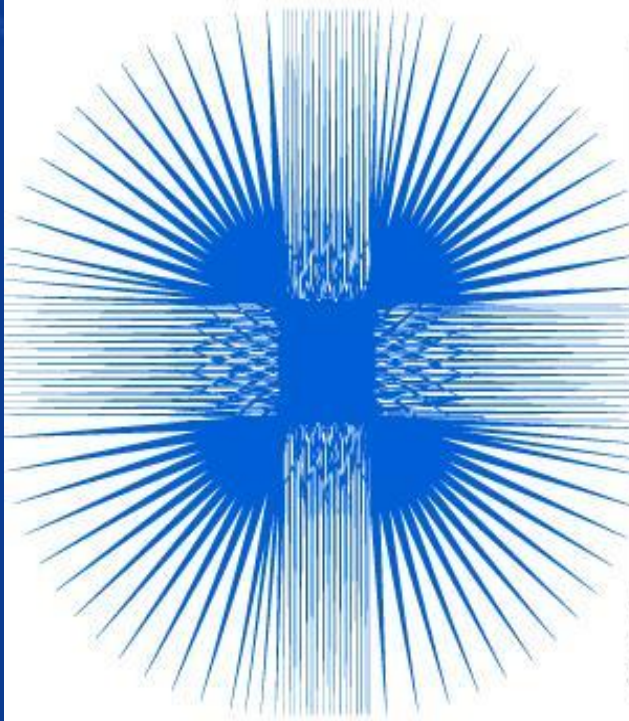
Deep Incisional SSI

- Occasionally an organ/space infection drains through the incision. Such infection generally does not involve reoperation and is considered a complication of the incision. Therefore, classify it as a deep incisional SSI.



WELL DONE!!!





NHSN

National Healthcare
Safety Network

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