NHSN Laboratory Confirmed Bloodstream Infection (LCBI) Checklist

Laboratory Confirmed Bloodstream Infection (LCBI) Summary		
Criterion	**Criterion Met**	**Date of Event**
LCBI-1	☐	
LCBI-2	☐	
LCBI-3	☐	
MBI LCBI-1	☐	
MBI LCBI-2	☐	
MBI LCBI-3	☐	
Please refer to Chapter 4 of the Patient Safety Manual to make a CLABSI determination.		

Documentation Review Checklist	
Laboratory Confirmed Bloodstream Infection (LCBI)	
LCBI 1 If LCBI 1 criteria is met, consider MBI-LCBI 1	
Element	**Element Met**
Patient of any age has:	
• A recognized pathogen, which is an organism not included on the NHSN common commensal list, identified from one or more blood specimens obtained by a culture or non-culture based microbiologic testing method	☐
AND the patient has:	
• Organism(s) identified in blood is not related to an infection at another site (**See Appendix B: Secondary BSI Guide**).	☐
NOTES: 1. If a patient meets both LCBI 1 and LCBI 2 criteria, report LCBI 1 with the recognized pathogen entered as pathogen #1 and the common commensal as pathogen #2. 2. No additional elements (in other words, no sign or symptom such as fever) are needed to meet LCBI 1 criteria; therefore, the LCBI 1 DOE will always be the collection date of the first positive blood specimen used to set the BSI IWP.	
Comments/Notes:	

Documentation Review Checklist	
Laboratory Confirmed Bloodstream Infection (LCBI)	
LCBI 2 If LCBI 2 criteria is met, consider MBI-LCBI 2	
Element	**Element Met**
Patient of any age has at least ***one*** of the following signs or symptoms:	
• Fever (>38°C)	☐
• Chills	☐
• Hypotension	☐
AND the patient has:	
• Organism(s) identified in blood is not related to an infection at another site (**See Appendix B: Secondary BSI Guide**).	☐
AND	
• The same NHSN common commensal is identified by a culture or non-culture based microbiologic testing method, from two or more blood specimens collected on separate occasions (see Blood Specimen Collection). Common Commensal organisms include, but not are not limited to, diphtheroids (*Corynebacterium* spp. not *C. diphtheria*), *Bacillus* spp. (not *B. anthracis)*, *Propionibacterium* spp., coagulase-negative staphylococci (including *S. epidermidis)*, viridans group streptococci, *Aerococcus* spp. *Micrococcus* spp. and *Rhodococcus* spp. For a full list of common commensals, see the Common Commensal tab of the NHSN Organisms List.	☐

Notes:

1. Criterion elements must occur within the 7-day IWP (as defined in Chapter 2) which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after.
2. The two matching common commensal specimens represent a single element for use in meeting LCBI 2 criteria and the collection date of the *first* specimen is used to determine the BSI IWP.
3. At least one element (specifically, a sign or symptom of fever, chills or hypotension) is required to meet LCBI 2 criteria; the LCBI 2 DOE will always be the date the ***first*** element occurs for the first time during the BSI IWP, whether that be a sign or symptom or the positive blood specimen.

Comments/Notes:

Documentation Review Checklist	
Laboratory Confirmed Bloodstream Infection (LCBI)	
LCBI 3 If LCBI 3 criteria is met, consider MBI-LCBI 3	
Element	**Element Met**
Patient is ≤1 year of age has at least ***one*** of the following signs or symptoms:	
• Fever (>38°C)	☐
• Hypothermia (<36.0°C)	☐
• Apnea	☐
• Bradycardia	☐
AND :	
Organism(s) identified in blood is not related to an infection at another site **(See Appendix B: Secondary BSI Guide**).	☐
AND	
The same NHSN common commensal is identified by a culture or non-culture based microbiologic testing method, from two or more blood specimens collected on separate occasions (see Blood Specimen Collection). Common Commensal organisms include, but not are not limited to, diphtheroids (*Corynebacterium* spp. not *C. diphtheria*), *Bacillus* spp. (not *B. anthracis)*, *Propionibacterium* spp., coagulase-negative staphylococci (including *S. epidermidis)*, viridans group streptococci, *Aerococcus* spp. *Micrococcus* spp. and *Rhodococcus* spp. For a full list of common commensals, see the Common Commensal tab of the NHSN Organisms List	☐

Notes:

1. Criterion elements must occur within the 7-day IWP (as defined in Chapter 2) which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after.
2. The two matching common commensal specimens represent a single element for use in meeting LCBI 2 criteria and the collection date of the *first* specimen is used to determine the BSI IWP.
3. At least one element (specifically, a sign or symptom of fever, hypothermia, apnea or bradycardia) is required to meet LCBI 3 criteria; the LCBI 3 DOE will always be the date the ***first*** element occurs for the first time during the BSI IWP whether that be a sign or symptom or the positive blood specimen.

Comments/Notes:

Documentation Review Checklist	
Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infection (MBI-LCBI)	
Must meet one of the following MBI-LCBI criteria	
MBI-LCBI 1	
Element	**Element Met**
Patient of **any age** fully meets LCBI 1 criteria with at least **one** blood specimen identified by culture or non-culture based microbiologic testing method	☐
AND	
ONLY intestinal organisms from the NHSN MBI organism list are identified*	☐
AND	
Patient meets at least *one* of the following:	
1. Is an allogeneic hematopoietic stem cell transplant recipient within the past year with one of the following documented during same hospitalization as positive blood specimen:	☐
a. Grade III or IV gastrointestinal graft versus host disease [GI GVHD]	☐
b. ≥1-liter diarrhea in a 24-hour period (or ≥20 mL/kg in a 24-hour period for patients <18 years of age) with onset on or within the 7 calendar days before the date the positive blood specimen was collected.	☐
2. Is neutropenic, defined as at least two separate days with ANC† and/or WBC values <500 cells/mm3 collected within a 7-day time period which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after (See Table 5).	☐
MBI-LCBI 2	
Patient of **any age** fully meets LCBI 2 criteria with at least **two** blood specimen identified by culture or non-culture based microbiologic testing method	☐
AND	
ONLY *viridans group streptococci* and/or *Rothia* but no other organisms are identified	☐
AND	
Patient meets at least *one* of the following:	
1. Is an allogeneic hematopoietic stem cell transplant recipient within the past year with one of the following documented during same hospitalization as positive blood specimen:	☐
a. Grade III or IV gastrointestinal graft versus host disease [GI GVHD]	☐
b. ≥1-liter diarrhea in a 24-hour period (or ≥20 mL/kg in a 24-hour period for patients <18 years of age) with onset on or within the 7 calendar days before the date the positive blood specimen was collected.	☐
2. Is neutropenic, defined as at least two separate days with ANC† and/or WBC values <500 cells/mm3 collected within a 7-day time period which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after (See Table 5).	☐

MBI-LCBI 3	
Patient **<1 year of age** fully meets LCBI 3 criteria with at least **two** blood specimen identified by culture or non-culture based microbiologic testing method	☐
AND	
ONLY *viridans group streptococci* and/or *Rothia* but no other organisms are identified	
AND	
Patient meets at least *one* of the following:	
1. Is an allogeneic hematopoietic stem cell transplant recipient within the past year with one of the following documented during same hospitalization as positive blood specimen:	☐
a. Grade III or IV gastrointestinal graft versus host disease [GI GVHD]	☐
b. ≥1-liter diarrhea in a 24-hour period (or ≥20 mL/kg in a 24-hour period for patients <18 years of age) with onset on or within the 7 calendar days before the date the positive blood specimen was collected.	☐
2. Is neutropenic, defined as at least two separate days with ANC† and/or WBC values <500 cells/mm^3 collected within a 7-day time period which includes the collection date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after (See Table 5).	☐

- An MBI-LCBI is a subset of the LCBI criteria; therefore, a BSI event must fully meet an LCBI criterion before evaluating for the corresponding MBI-LCBI criteria.
- The MBI-LCBI DOE will always be the date the prerequisite LCBI criteria was met. Abnormal ANC and WBC values reflect risk factors for acquiring an MBI-LCBI, not symptoms of infection and therefore are not used in DOE determinations.

NOTES:

1. If a patient meets both MBI-LCBI 1 and MBI-LCBI 2 criteria (specifically has *Viridans Group Streptococcus* and/or *Rothia* spp. plus **only other MBI organisms** in the blood), report organisms as MBI-LCBI 1 with the recognized pathogen as pathogen #1 and the common commensal as pathogen #2.
2. Any combination of ANC and/or WBC values can be used to meet neutropenic criteria provided they are collected on separate days within the 7-day period that includes the date of the positive blood specimen, the 3 calendar days before and the 3 calendar days after.

*A partial list of MBI-LCBI organisms is provided in Appendix A.
See MBI organism tab on the NHSN organism list for the full list of MBI organisms.

Blood Specimen Collection

1. In LCBI criteria 2 and 3, the phrase "two or more blood specimens drawn on separate occasions" means:
    a. blood from at least two separate blood draws was collected on the same or consecutive calendar days, and
    b. two separate site preparations (decontamination steps) were performed during specimen collection.

   This will reduce misidentification of contaminated blood specimens as LCBIs. For example, aseptic technique indicates that separate site decontaminations would be performed for blood specimens drawn from different sites (in other words; different venipunctures, a combination of venipuncture and lumen withdrawal, or different lumens of the same central line), or at different times. Specimens collected in this manner would, therefore, be considered "separate occasions".

2. Specimen Collection Considerations: Blood specimens drawn through central lines can have a higher rate of contamination than blood specimens collected through peripheral venipuncture. [3, 4] However, all positive blood specimens, regardless of the site from which they are drawn or the purpose for which they are collected, must be included when conducting in-plan CLABSI surveillance (for example, weekly blood cultures performed in hematology and oncology locations).

3. Catheter tip cultures cannot be used in place of blood specimens for meeting LCBI criteria.

4. In MBI-LCBI 1, 2 and 3, "No other organisms" means there is no identification of a non-MBI-LCBI pathogen (such as *S. aureus*) or 2 matching common commensals (such as coagulase-negative *staphylococci*) collected from the blood on separate occasions that would otherwise meet LCBI criteria. If this occurs, the infection does not meet MBI-LCBI criteria.

5. When a blood specimen positive for an organism not included on the NHSN MBI organism list is collected during the BSI RIT of an MBI-LCBI, the initial MBI-LCBI event is edited to an LCBI and the identified non-MBI organism is added.

****Please note, once an LCBI is identified, refer to Chapter 4 of the NHSN Patient Safety Component Manual at https://www.cdc.gov/nhsn/pdfs/pscmanual/4psc_clabscurrent.pdf for additional guidance on making central line associated (CLABSI) determinations.**