

BONE – Osteomyelitis

(Last updated January 1, 2015)

DEFINITION: Osteomyelitis must meet at least **ONE** ☐ of the following criteria:

☐ Criterion 1: *(Last updated June, 2008)*

- ☐ Patient has organisms cultured from bone

☐ Criterion 2: *(Last updated January 1, 2015)*

- ☐ Patient has evidence of osteomyelitis seen during **ONE** ☐ of the following:

- ☐ gross anatomic exam

- ☐ histopathologic exam

☐ Criterion 3: *(Last updated January 1, 2015)*

- ☐ Patient has at least **TWO** ☐ of the following localized signs or symptoms: (**± as documented in the medical record; * with no other recognized cause**)

- ☐ fever ($>38^{\circ}\text{C}$)**±**

- ☐ swelling*

- ☐ pain or tenderness*

- ☐ heat*

- ☐ drainage*

AND

- ☐ Patient has at least **ONE** ☐ of the following:

- ☐ organisms cultured from blood in a patient with imaging test evidence of infection

- ☐ positive non-culture diagnostic lab test on blood (e.g. antigen test, PCR)

- ☐ imaging test evidence of infection (e.g. x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.])

REPORTING INSTRUCTIONS: *(Last updated June, 2008)*

- Report mediastinitis following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE.

DISC – Disc Space Infection*(Last updated January 1, 2015)***DEFINITION:** Vertebral disc space infection must meet at least **ONE** ☐ of the following criteria:**☐ Criterion 1:** *(Last updated January 1, 2015)*

- ☐ Patient has organisms cultured from vertebral disc space

☐ Criterion 2: *(Last updated January 1, 2015)*

- ☐ Patient has evidence of vertebral disc space infection seen on **ONE** ☐ of the following:
 - ☐ gross anatomic exam
 - ☐ histopathologic exam

☐ Criterion 3: *(Last updated January 1, 2015)*

- ☐ Patient has at least **ONE** ☐ of the following: (*± as documented in the medical record; * with no other recognized cause*)
 - ☐ fever ($>38.0^{\circ}\text{C}$)*±*
 - ☐ pain at the involved vertebral disc space*
- AND**
- ☐ Patient has at least **ONE** ☐ of the following:
 - ☐ organism cultured from blood in patient with imaging test evidence of infection
 - ☐ positive non-culture diagnostic lab test on blood or urine (e.g., antigen test, PCR)
 - ☐ imaging test evidence of infection (e.g. on x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]).



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
HAI Surveillance Definitions
BONE AND JOINT INFECTION (BJ)



JNT – Joint or Bursa Infection (not for use after HPRO or KPRO procedures)

(Last updated January 1, 2015)

DEFINITION: Joint or bursa infections must meet at least **ONE** ☐ of the following criteria:

☐ Criterion 1: *(Last updated June, 2008)*

- Patient has organisms cultured from **ONE** ☐ of the following:

- ☐ joint fluid

- ☐ synovial biopsy

☐ Criterion 2: *(Last updated January 1, 2015)*

- Patient has evidence of **ONE** ☐ of the following:

- ☐ joint infection seen on **ONE** ☐ of the following:

- ☐ gross anatomic exam

- ☐ histopathologic exam

- ☐ bursa infection seen on **ONE** ☐ of the following:

- ☐ gross anatomic exam

- ☐ histopathologic exam

☐ Criterion 3: *(Last updated January 1, 2015)*

- Patient has at least **TWO** ☐ of the following signs or symptoms with no other recognized cause:

- ☐ swelling

- ☐ pain or tenderness

- ☐ heat

- ☐ evidence of effusion

- ☐ limitation of motion

AND

- Patient has at least **ONE** ☐ of the following:

- ☐ **ONE** ☐ of the following:

- ☐ elevated joint fluid white blood count (per reporting laboratory's reference range)

- ☐ positive leukocyte esterase test strip of joint fluid



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
HAI Surveillance Definitions
BONE AND JOINT INFECTION (BJ)



- △ **BOTH** ☐ of the following seen on Gram stain of joint fluid:
 - ☐ organisms
 - ☐ white blood cells
- △ positive blood culture
- △ imaging test evidence of infection (e.g. on x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]).

PJI – Periprosthetic Joint Infection (following HPRO and KPRO only)

(Last updated January 1, 2015)

DEFINITION: Joint or bursa infections must meet at least **ONE** ☐ of the following criteria:

☐ Criterion 1: *(Last updated January 1, 2015)*

- ☐ Two positive cultures with matching organisms from **ONE** ☐ of the following:

- ☐ periprosthetic tissue
- ☐ periprosthetic fluid

☐ Criterion 2: *(Last updated January 1, 2014)*

- ☐ A sinus tract communicating with the joint

☐ Criterion 3: *(Last updated January 1, 2014)*

- ☐ Have **THREE** ☐ of the following minor criteria:

☐ **BOTH** ☐ of the following:

- ☐ elevated serum C-reactive protein (CRP; >100 mg/L)
- ☐ erythrocyte sedimentation rate (ESR; >30 mm/hr)

☐ **ONE** ☐ of the following:

- ☐ elevated synovial fluid white blood cell (WBC; >10,000 cells/μL) count
- ☐ ++ (or greater) change on leukocyte esterase test strip of synovial fluid
- ☐ elevated synovial fluid polymorphonuclear neutrophil percentage (PMN% >90%)
- ☐ positive histological analysis of periprosthetic tissue (>5 neutrophils (PMNs) per high power field)
- ☐ a single positive culture from **ONE** ☐ of the following:
 - ☐ periprosthetic tissue
 - ☐ periprosthetic fluid

COMMENTS: *(Last updated January 1, 2015)*

- A matching organism is defined as one of the following:
 - If genus and species are identified in both cultures, they must be the same.

Examples:

1. Two joint fluid cultures reported as *Enterobacter cloacae* is a match.
2. A joint tissue culture reported as *Enterobacter cloacae* and a synovial fluid culture reported as *Enterobacter aerogenes* are NOT matching organisms as the species are different.
3. Two joint fluid cultures reported as *Enterococcus species* are considered matching organisms



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
HAI Surveillance Definitions
BONE AND JOINT INFECTION (BJ)



- If the organism is less definitively identified in one culture than the other, the identifications must be complementary.

Example: A joint fluid culture reported as *Pseudomonas spp.* and a joint tissue culture reported as *Pseudomonas aeruginosa* are considered a match at the genus level and therefore can be considered matching organisms.

- Positive cultures of hardware from a hip or knee can be used to meet criterion 1.
- A sinus tract is defined as a narrow opening or passageway underneath the skin that can extend in any direction through soft tissue and results in dead space with potential for abscess formation.
- The NHSN definition of PJI is closely adapted from the Musculoskeletal Infection Society's (MSIS's) definition of PJI (*Proceedings of the International Consensus Meeting on Periprosthetic Joint Infection. 2013*).
- The standard laboratory cutoff values in criteria 3a to 3d are provided by NHSN for HPRO and KPRO SSI surveillance purposes only. The NHSN laboratory cutoffs are not intended to guide clinicians in the actual clinical diagnosis and management of acute or chronic PJI. Clinicians should refer to the MSIS consensus definition for clinical use.