

BONE – Osteomyelitis*(Revised January 1, 2018)*

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

☐ **Criterion 1:** *(Revised January 1, 2018)*

- Patient has organism(s) identified from bone[#]

☐ **Criterion 2:** *(Revised January 1, 2018)*

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

- ☐ gross anatomic exam

- ☐ histopathologic exam

☐ **Criterion 3:** *(Revised January 1, 2018)*

- Patient has at least **TWO** ☐ of the following localized signs or symptoms:

- ☐ fever (>38°C)

- ☐ swelling*

- ☐ pain or tenderness*

- ☐ heat*

- ☐ drainage*

AND

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

- ☐ organism(s) identified from blood[#] AND imaging test evidence suggestive of infection (for example, x-ray, CT Scan, MRI, radiolabel scan [gallium, technetium, etc.][^]

- ☐ imaging test evidence suggestive of infection (for example x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]

** with no other recognized cause*

[#]by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (for example, not Active Surveillance Culture/Testing (ASC/AST).

[^]which if equivocal is supported by clinical correlation (specifically, physician documentation of antimicrobial treatment for osteomyelitis)

REPORTING INSTRUCTIONS: *(Revised January 1, 2018)*

- Report mediastinitis following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE.
- If a patient meets both organ space JNT and BONE report the SSI as BONE
After an HPRO or a KPRO if a patient meets both organ space PJI and BONE report the SSI as BONE

DISC – Disc Space Infection*(Revised January 1, 2018)*

DEFINITION: Vertebral disc space infection must meet at least **ONE** □ of the following criteria:

□ **Criterion 1:** *(Revised January 1, 2018)*

- Patient has organism(s) identified from vertebral disc space[#]

□ **Criterion 2:** *(Revised January 1, 2018)*

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

□ **Criterion 3:** *(Revised January 1, 2018)*

- Patient has at least **ONE** △ of the following: (** with no other recognized cause*)
 - △ fever (>38.0°C)
 - △ pain at the involved vertebral disc space*

AND

- Patient has at least **ONE** △ of the following:
 - △ organism(s) identified from blood[#] and imaging test evidence suggestive of infection (for example, x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.])[^]
 - △ imaging test evidence suggestive of infection (for example on x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]).[^]

[#]by culture or non-cultured based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (for example, not Active Surveillance Culture/Testing (ASC/AST)).

[^]which if equivocal is supported by clinical correlation (specifically, physician documentation of antimicrobial treatment for vertebral disc space infection)

JNT – Joint or Bursa Infection
(not for use as Organ/Space SSI after HPRO or KPRO procedures)
(Revised January 1, 2018)

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

□ **Criterion 1:** (Revised January 1, 2018)

- Patient has organism(s) identified from **ONE** △ of the following:
 - △ joint fluid[#]
 - △ synovial biopsy[#]

□ **Criterion 2:** (Revised January 1, 2018)

- 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:** (Revised January 1, 2018)

- 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
 - △ **BOTH** ◇ of the following seen on Gram stain of joint fluid:
 - ◇ organism(s)
 - ◇ white blood cells

- △ organism(s) identified from blood #
- △ imaging test evidence suggestive of infection (for example on x-ray, CT scan, MRI, radio label scan [gallium, technetium, etc.]^)

#by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (for example, not Active Surveillance Culture/Testing (ASC/AST)).

^which if equivocal is supported by clinical correlation (specifically, physical documentation of antimicrobial treatment for joint or bursa infection).

Reporting instruction (Revised January 1, 2018)

- If a patient meets both organ space JNT and BONE report the SSI as BONE

PJI – Periprosthetic Joint Infection
(for use as Organ/Space SSI following HPRO and KPRO only)
(Revised January 1, 2018)

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

□ **Criterion 1:** *(Revised January 1, 2018)*

- **Two** positive specimens with at least **one** matching organism from **ONE** △ of the following:
 - △ periprosthetic tissue[#]
 - △ periprosthetic fluid[#]

□ **Criterion 2:** *(Revised January 1, 2018)*

- A sinus tract* communicating with the joint identified on gross anatomic exam

□ **Criterion 3:** *(Revised January 1, 2018)*

- 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)
 - △ organism(s) identified from a single positive test from **ONE** ◇ of the following:
 - ◇ periprosthetic tissue[#]
 - ◇ periprosthetic fluid[#]

[#]by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (for example, not Active Surveillance Culture/Testing (ASC/AST)).

**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.*

COMMENTS: (Revised January 1, 2018)

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

Examples:

1. Two joint fluid specimens reported as *Enterobacter cloacae* are matching organisms.
 2. A joint tissue specimen reported as *Enterobacter cloacae* and a synovial fluid specimen reported as *Enterobacter aerogenes* are NOT matching organisms as the species are different.
- Two joint fluid specimens reported as *Enterococcus species* are considered matching organisms. If the organism is less definitively identified in one specimen than the other, the lesser identified organism must be identified to at least the genus level and at that level the organisms must be the same.

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

- Organism(s) identified from hip or knee hardware can be used to meet criterion 1.
- 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 - 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.

Reporting Instruction:

After an HPRO or a KPRO if a patient meets organ space PJI and BONE report the SSI as BONE