

CARD – Myocarditis or Pericarditis

(Last updated January 1, 2015)

DEFINITION: Myocarditis or pericarditis must meet at least **ONE** ☐ of the following criteria:

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

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

- ☐ pericardial tissue
- ☐ pericardial fluid

☐ Criterion 2: (Last updated January 1, 2013)

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

- ☐ fever ($>38.0^{\circ}\text{C}$)**±**
- ☐ chest pain*
- ☐ paradoxical pulse*
- ☐ increased heart size*

AND

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

- ☐ abnormal EKG consistent with **ONE** ☐ of the following:
 - ☐ myocarditis
 - ☐ pericarditis
- ☐ positive non-culture diagnostic lab test on blood (e.g., antigen test, PCR)
- ☐ evidence of with **ONE** ☐ of the following:
 - ☐ myocarditis on histologic examination of heart tissue
 - ☐ pericarditis on histologic examination of heart tissue
- ☐ 4-fold rise in paired sera from IgG antibody titer
- ☐ pericardial effusion identified by **ONE** ☐ of the following:
 - ☐ echocardiogram
 - ☐ CT scan
 - ☐ MRI
 - ☐ angiography

Criterion 3: (Last updated January 1, 2015)

- Patient ≤1 year of age has at least **TWO** **△** of the following signs or symptoms: (**±** as documented in the medical record; * with no other recognized cause)

- △** fever ($>38.0^{\circ}\text{C}$)**±**
- △** hypothermia ($<36.0^{\circ}\text{C}$)**±**
- △** apnea*
- △** bradycardia*
- △** paradoxical pulse*
- △** increased heart size*

AND

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

- △** abnormal EKG consistent with **ONE** **□** of the following:
 - myocarditis
 - pericarditis
- △** positive non-culture lab test on blood (e.g., antigen test, PCR)
- △** evidence of with **ONE** **□** of the following:
 - myocarditis on histologic examination of heart tissue
 - pericarditis on histologic examination of heart tissue
- △** 4-fold rise in paired sera from IgG antibody titer
- △** pericardial effusion identified by **ONE** **□** of the following:
 - echocardiogram
 - CT scan
 - MRI
 - angiography

COMMENT: (Last updated June, 2008)

- Most cases of postcardiac surgery or postmyocardial infarction pericarditis are not infectious.



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ENDO – Endocarditis

(Last updated January 1, 2015)

DEFINITION: Endocarditis of a natural or prosthetic heart valve must meet at least **ONE** ☐ of the following criteria:

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

- ☐ Patient has organisms cultured from **ONE** ☐ of the following: (* *with no other recognized cause*)
 - ☐ cardiac vegetation* documented as originating from **ONE** ☐ of the following:
 - ☐ cardiac source
 - ☐ intracardiac abscess
 - ☐ embolized vegetation (e.g., solid organ abscess) documented as originating from **ONE** ☐ of the following:
 - ☐ cardiac source
 - ☐ intracardiac abscess

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

- ☐ Patient has organisms seen on histopathologic exam of **ONE** ☐ of the following: (* *with no other recognized cause*)
 - ☐ cardiac vegetation
 - ☐ embolized vegetation (e.g., solid organ abscess) documented as originating from cardiac source
 - ☐ intracardiac abscess

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

- ☐ Patient has endocarditis seen on histopathologic exam of **ONE** ☐ of the following:
 - ☐ cardiac vegetation
 - ☐ intracardiac abscess

☐ Criterion 4: *(Last updated January 1, 2015)*

- ☐ Patient has at least **ONE** ☐ of the following echocardiographic evidence of endocarditis:
 - ☐ vegetation on **ONE** ☐ of the following:
 - ☐ cardiac valve
 - ☐ supporting structures

△ intracardiac abscess

△ BOTH □ of the following:

□ new partial dehiscence of prosthetic valve

□ ONE ○ of the following:

○ typical infectious endocarditis organisms* from ≥ 2 blood cultures drawn on separate occasions (on same or consecutive days)

(* i.e., Viridans group streptococci, *Streptococcus bovis*, *Haemophilus* spp., *Actinobacillus actinomycetemcomitans*, *Cardiobacterium hominis*, *Eikenella corrodens*, *Kingella* spp., *Staphylococcus aureus*)

○ *Coxiella burnetii* cultured from blood or identified by anti-phase I IgG antibody titer $>1:800$

□ **Criterion 5:** (Last updated January 1, 2015)

○ Patient has at least THREE △ of the following:

△ ANY □ of the following:

□ prior endocarditis

□ prosthetic valve

□ uncorrected congenital heart disease

□ history of rheumatic heart disease

□ hypertrophic obstructive cardiomyopathy

□ known IV drug use

△ fever ($>38.0^{\circ}\text{C}$) \pm

△ ANY □ of the following vascular phenomena:

□ major arterial emboli, including ANY ○ of the following:

○ embolic stroke

○ renal infarct

○ splenic infarct or abscess

○ digital ischemic/gangrene from embolic source

□ septic pulmonary infarcts

☐ mycotic aneurysm as seen by **ANY** ☐ of the following:

- ☐ documented by imaging
- ☐ seen in surgery
- ☐ described in **ONE** of the following:
 - gross pathological specimen
 - intracranial hemorrhage

☐ conjunctival hemorrhages

☐ Janeway's lesions documented

BOTH ☐ of the following:

☐ **ANY** ☐ of the following immunologic phenomena:

- ☐ glomerulonephritis as seen by **ANY** of the following:
 - documented or charted
 - white blood cell or red blood cell casts on urinalysis
- ☐ Osler's nodes
- ☐ Roth's spots
- ☐ positive rheumatic factor

☐ **ONE** ☐ of the following

- ☐ typical infectious endocarditis organisms* from ≥ 2 blood cultures drawn on separate occasions (on same or consecutive days)
(i.e., Viridans group streptococci, Streptococcus bovis, Haemophilus spp., Actinobacillus actinomycetemcomitans, Cardiobacterium hominis, Eikenella corrodens, Kingella spp., Staphylococcus aureus)*
- ☐ *Coxiella burnetii* cultured from blood or identified by anti-phase I IgG antibody titer $>1:800$

☐ **Criterion 6:** (Last updated January 1, 2015)

☐ Patient has **BOTH** of the following: (\pm as documented in the medical record)

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

- ☐ echocardiographic evidence of vegetation on at least **ONE** ☐ of the following:
 - ☐ cardiac valve
 - ☐ supporting structures
- ☐ intracardiac abscess seen on echocardiogram
- ☐ new partial dehiscence of prosthetic valve seen on echocardiogram

△ Patient has at least **THREE** □ of the following:

□ **ANY** ○ of the following:

- prior endocarditis
- prosthetic valve
- uncorrected congenital heart disease
- history of rheumatic heart disease
- hypertrophic obstructive cardiomyopathy
- IV drug use

□ fever ($>38.0^{\circ}\text{C}$)±

□ **ANY** ○ of the following vascular phenomena:

- major arterial emboli, including **ANY** △ of the following:
 - △ embolic stroke
 - △ renal infarct
 - △ splenic infarct or abscess
 - △ digital ischemic/gangrene from embolic source
- septic pulmonary infarcts
- mycotic aneurysm as seen by **ANY** △ of the following:
 - △ documented by imaging
 - △ seen in surgery
 - △ described in **ONE** □ of the following:
 - gross pathological specimen
 - intracranial hemorrhage
- conjunctival hemorrhages
- Janeway's lesions documented

□ **ANY** ○ of the following immunologic phenomena:

- glomerulonephritis as seen by **ANY** △ of the following:
 - △ documented or charted
 - △ white blood cell or red blood cell casts on urinalysis
- Osler's nodes
- Roth's spots



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- positive rheumatic factor
- identification of an organism from the blood by at least **ONE** ○ of the following methods:
 - recognized pathogen cultured from one or more blood cultures
 - name common commensal organism cultured from ≥ 2 blood cultures drawn on separate occasions (on same or consecutive days)
 - organism identified by non-culture diagnosis test from blood (e.g., serology, PCR)

Reporting Instructions: *(Last updated January 1, 2015)*

- “Cardiac vegetation” includes vegetation on a pacemaker / defibrillator lead.



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MED – Mediastinitis

(Last updated January 1, 2015)

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

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

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

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

- ☐ Patient has evidence of mediastinitis 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 signs or symptoms: (**\pm as documented in the medical record; * with no other recognized cause**)
 - ☐ fever ($>38.0^{\circ}\text{C}$) **\pm**
 - ☐ chest pain*
 - ☐ sternal instability*
- AND**
- ☐ Patient has at least **ONE** ☐ of the following:
 - ☐ purulent drainage from mediastinal area
 - ☐ mediastinal widening on imaging test

☐ Criterion 4: (Last updated January 1, 2015)

- ☐ Patient ≤ 1 year of age has at least **ONE** ☐ of the following signs or symptoms: (**\pm as documented in the medical record; * with no other recognized cause**)
 - ☐ fever ($>38.0^{\circ}\text{C}$) **\pm**
 - ☐ hypothermia ($<36.0^{\circ}\text{C}$) **\pm**
 - ☐ apnea*
 - ☐ bradycardia*
 - ☐ sternal instability*

AND



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- Patient has at least **ONE** ▲ of the following:
 - ▲ purulent discharge from mediastinal area
 - ▲ mediastinal widening on imaging test

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

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



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VASC – Arterial or Venous Infection

(Last updated January 1, 2015)

DEFINITION: Arterial or venous infection must meet at least **ONE** ☐ of the following criteria:

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

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

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

- ☐ Patient has evidence of **ONE** ☐ of the following:
 - ☐ arterial infection seen during **ONE** ☐ of the following:
 - ☐ gross anatomic exam
 - ☐ histopathologic exam
 - ☐ venous infection seen during **ONE** ☐ of the following:
 - ☐ gross anatomic exam
 - ☐ histopathologic exam

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

- ☐ Patient has at least **ONE** ☐ of the following signs or symptoms: (***± as documented in the medical record; * with no other recognized cause***)
 - ☐ fever ($>38.0^{\circ}\text{C}$) ***±***
 - ☐ pain*
 - ☐ erythema*
 - ☐ heat at involved vascular site*

AND

- ☐ Patient has more than 15 colonies cultured from intravascular cannula tip using semiquantitative culture method

☐ Criterion 4: *(Last updated January 1, 2015)*

- ☐ Patient has purulent drainage at involved vascular site



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□ **Criterion 5:** *(Last updated January 1, 2013)*

- Patient ≤1 year of age has at least **ONE** Δ of the following signs or symptoms: (\pm as documented in the medical record; * with no other recognized cause)

- Δ fever ($>38.0^{\circ}\text{C}$) \pm
- Δ hypothermia ($<36.0^{\circ}\text{C}$) \pm
- Δ apnea*
- Δ bradycardia*
- Δ lethargy*
- Δ pain*
- Δ erythema*
- Δ heat at involved vascular site*

AND

- Patient has more than 15 colonies cultured from intravascular cannula tip using semiquantitative culture method

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

- 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 and meeting the LCBI criteria, as BSI-LCBI.
- Report Organ Space VASC infections as an SSI and not an LCBI when you have an SSI with secondary BSI.