

CARDIOVASCULAR SYSTEM (CVS)

VASC – Arterial or Venous Infection

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

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

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

- ☐ arteries removed during a surgical operation

- ☐ veins removed during a surgical operation

AND

- Choose **ONE** ☐ of the following:

- ☐ blood culture not done

- ☐ no organisms cultured from blood

☐ **Criterion 2:** *(Last updated June, 2008)*

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

- ☐ arterial infection seen during **ONE** ☐ of the following:

- ☐ surgical operation

- ☐ histopathologic examination

- ☐ venous infection seen during **ONE** ☐ of the following:

- ☐ surgical operation

- ☐ histopathologic examination

☐ **Criterion 3:** *(Last updated June, 2008)*

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

- ☐ fever (>38°C)

- ☐ pain

- ☐ erythema

- ☐ heat at involved vascular site



AND

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

AND

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- Choose **ONE**  of the following:



-  blood culture not done
-  no organisms cultured from blood

□ Criterion 4: (Last updated June, 2008)


- Patient has purulent drainage at involved vascular site









AND

- Choose **ONE**  of the following:

-  blood culture not done
-  no organisms cultured from blood

□ Criterion 5: (Last updated June, 2008)

- Patient ≤1 year of age has at least **ONE**  of the following signs or symptoms with no other recognized cause:



-  fever (>38°C rectal)
-  hypothermia (<37°C rectal)
-  apnea
-  bradycardia
-  lethargy
-  pain
-  erythema
-  heat at involved vascular site

AND

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

AND

- Choose **ONE**  of the following:

-  blood culture not done
-  no organisms cultured from blood

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 as BSI-LCBI.

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ENDO – Endocarditis

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

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

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

- ☐ valve

- ☐ vegetation

☐ **Criterion 2:** (*Last updated June, 2008*)

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

- ☐ fever (>38°C)

- ☐ **ONE** ☐ of the following:

- ☐ new murmur

- ☐ changing murmur

- ☐ embolic phenomena

- ☐ skin manifestations (e.g. petechiae, splinter hemorrhages, painful subcutaneous nodules)

- ☐ congestive heart failure

- ☐ cardiac conduction abnormality

AND

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

- ☐ organisms cultured from two or more blood cultures

- ☐ organisms seen on Gram stain of valve when culture is negative or not done

- ☐ valvular vegetation seen during **ONE** ☐ of the following:

- ☐ surgical operation

- ☐ autopsy

- ☐ positive antigen test (e.g. *H. influenzae*, *S. pneumoniae*, *N. meningitidis*, or Group B Streptococcus) on **ONE** ☐ of the following:

- ☐ blood

- ☐ urine


























- ☐ evidence of new vegetation seen on echocardiogram

AND

- If patient is diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy

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□ Criterion 3: (Last updated June, 2008)

- Patient ≤1 year of age has **TWO**  or more of the following signs or symptoms with no other recognized cause:
 -  fever (>38°C rectal)
 -  hypothermia (<37°C rectal)
 -  apnea
 -  bradycardia
 -  **ONE**  of the following:
 -  new murmur
 -  changing murmur
 -  embolic phenomena
 -  skin manifestations (e.g. petechiae, splinter hemorrhages, painful subcutaneous nodules)
 -  congestive heart failure
 -  cardiac conduction abnormality
- AND**
- Patient has at least **ONE**  of the following:
 -  organisms cultured from two or more blood cultures
 -  organisms seen on Gram stain of valve when culture is negative or not done
 -  valvular vegetation seen during **ONE**  of the following:
 -  surgical operation
 -  autopsy
 -  positive antigen test (e.g., *H. influenzae*, *S. pneumoniae*, *N. meningitidis*, or Group B Streptococcus) on **ONE**  of the following:
 -  blood
 -  urine
 -  evidence of new vegetation seen on echocardiogram
- AND**
- If patient is diagnosis is made antemortem, physician institutes appropriate antimicrobial therapy

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CARD – Myocarditis or Pericarditis

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

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

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

- ☐ pericardial tissue obtained by **ONE** ☐ of the following:

- ☐ needle aspiration

- ☐ surgical operation

- ☐ pericardial fluid obtained by **ONE** ☐ of the following:

- ☐ needle aspiration

- ☐ surgical operation

☐ **Criterion 2:** (Last updated June, 2008)

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

- ☐ fever (>38°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 antigen test on blood (e.g., *H. influenzae*, *S. pneumoniae*)

- ☐ evidence of with **ONE** ☐ of the following:

- ☐ myocarditis on histologic examination of heart tissue

- ☐ pericarditis on histologic examination of heart tissue

- ☐ evidence of with **ONE** ☐ of the following:

- ☐ 4-fold rise in type-specific antibody **with** isolation of virus from pharynx or feces

- ☐ 4-fold rise in type-specific antibody **without** isolation of virus from pharynx or feces

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△ pericardial effusion identified by **ONE** □ of the following:

- echocardiogram
- CT scan
- MRI
- angiography

□ Criterion 3: (Last updated June, 2008)

- Patient ≤1 year of age has at least **TWO** △ of the following signs or symptoms with no other recognized cause:

- △ fever (>38°C rectal)
- △ hypothermia (<37°C rectal)
- △ 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 antigen test on blood (e.g., *H. influenzae*, *S. pneumoniae*)

△ evidence of with **ONE** □ of the following:

- myocarditis on histologic examination of heart tissue
- pericarditis on histologic examination of heart tissue

△ evidence of with **ONE** □ of the following:

- 4-fold rise in type-specific antibody **with** isolation of virus from pharynx or feces
- 4-fold rise in type-specific antibody **without** isolation of virus from pharynx or feces

△ 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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MED – Mediastinitis

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

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

- Patient has organisms cultured from **ONE** ☐ of the following:
 - △ mediastinal tissue obtained during **ONE** ☐ of the following:
 - ☐ a surgical operation
 - ☐ needle aspiration
 - △ mediastinal fluid obtained during **ONE** ☐ of the following:
 - ☐ a surgical operation
 - ☐ needle aspiration

☐ **Criterion 2:** (Last updated June, 2008)

- Patient has evidence of mediastinitis seen during **ONE** ☐ of the following:
 - △ surgical operation
 - △ histopathologic examination

☐ **Criterion 3:** (Last updated June, 2008)

- Patient has at least **ONE** ☐ of the following signs or symptoms with no other recognized cause:
 - △ fever (>38°C)
 - △ chest pain
 - △ sternal instability
- AND**
- Patient has at least **ONE** ☐ of the following:
 - △ purulent discharge from mediastinal area
 - △ organisms cultured from **ONE** ☐ of the following:
 - ☐ blood from mediastinal area
 - ☐ discharge from mediastinal area
 - △ mediastinal widening on x-ray

☐ **Criterion 4:** (Last updated June, 2008)

- Patient ≤1 year of age has at least **ONE** ☐ of the following signs or symptoms with no other recognized cause:
 - △ fever (>38°C rectal)
 - △ hypothermia (<37°C rectal)



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- △ apnea
- △ bradycardia
- △ sternal instability

AND

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

- △ purulent discharge from mediastinal area
- △ organisms cultured from **ONE** □ of the following:
 - blood from mediastinal area
 - discharge from mediastinal area
- △ mediastinal widening on x-ray

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

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