2025 NHSN Cardiovascular System Infection (CVS) Checklist

Documentation Review Checklist		
CVS - CARDIOVASCULAR SYSTEM INFECTION		
CARD-Myocarditis or pericarditis **Criterion met: ☐ 1 ☐ 2a ☐ 2b ☐ 2c ☐ 2d ☐ 3a ☐ 3b ☐ 3c ☐ 3d**		
Element	**Element Met**	**Date**
Myocarditis or pericarditis must meet at least ***one*** of the following criteria:		
1. Patient has organism(s) identified from pericardial tissue or fluid by a culture or non-culture based microbiologic testing method, which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
2. Patient has at least ***two*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Chest pain*	☐	
• Paradoxical pulse*	☐	
• Increased heart size*	☐	
AND at least ***one*** of the following:		
a. Abnormal EKG consistent with myocarditis or pericarditis.	☐	
b. Evidence of myocarditis or pericarditis on histologic exam of heart tissue.	☐	
c. 4-fold rise in paired sera from IgG antibody titer.	☐	
d. Pericardial effusion identified by echocardiogram, CT scan, MRI, or angiography.	☐	
3. Patient **≤1 year of age** has at least ***two*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Hypothermia (<36.0°C)	☐	
• Apnea*	☐	
• Bradycardia*	☐	
• Paradoxical pulse*	☐	
• Increased heart size*	☐	
AND at least ***one*** of the following:		
a. Abnormal EKG consistent with myocarditis or pericarditis.	☐	
b. Histologic examination of heart tissue shows evidence of myocarditis or pericarditis.	☐	
c. 4-fold rise in paired sera from IgG antibody titer.	☐	
d. Pericardial effusion identified by echocardiogram, CT scan, MRI, or angiography.	☐	
**With no other recognized cause*		

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MED-Mediastinitis **Criterion met: ☐ 1 ☐ 2 ☐ 3a ☐ 3b ☐ 4a ☐ 4b**		
Element	**Element Met**	**Date**
Mediastinitis must meet at least ***one*** of the following criteria:		
1. Patient has organism(s) identified from mediastinal tissue or mediastinal fluid by a culture or non-culture based microbiologic testing method, which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
2. Patient has evidence of mediastinitis on gross anatomic or histopathologic exam.	☐	
3. Patient has at least ***one*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Chest pain*	☐	
• Sternal instability*	☐	
AND at least ***one*** of the following:		
a. Purulent drainage from mediastinal area.	☐	
b. Mediastinal widening on imaging test.	☐	
4. Patient **≤1 year of age** has at least ***one*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Hypothermia (<36.0°C)	☐	
• Apnea*	☐	
• Bradycardia*	☐	
• Sternal instability*	☐	
AND at least ***one*** of the following:		
a. Purulent drainage from mediastinal area.	☐	
b. Mediastinal widening on imaging test.	☐	
**With no other recognized cause*		
Comment: • The mediastinal space is the area under the sternum and in front of the vertebral column, containing the heart and its large vessels, trachea, esophagus, thymus, lymph nodes, and other structures and tissues. It is divided into anterior, middle, posterior, and superior regions.		
Reporting instruction: • Report mediastinitis (MED) following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE.		

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VASC-Arterial or venous infection, excluding infections involving vascular access devices with organisms identified in the blood **Criterion met: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5**		
Note: If a patient meets the criteria for an LCBI in the presence of an arterial or vascular infection (VASC) report as an LCBI not as a VASC. **Occasionally, a patient with both an eligible central line and another vascular access device will have pus at the other access site. If there is pus at the site of one of the following vascular access devices and a specimen collected from that site has at least one matching organism to an organism identified in the blood during the BSI IWP, report such events marking the "pus at the vascular access site" field as "Yes." Vascular access devices included in this exception are limited to: • Arterial catheters unless in the pulmonary artery, aorta or umbilical artery • Arteriovenous fistulae • Arteriovenous grafts • Hemodialysis reliable outflow (HERO) dialysis catheters • Intra-aortic balloon pump (IABP) devices • Non-accessed CL (those neither inserted nor used during current admission) • Peripheral IV or Midlines		
Element	**Element Met**	**Date**
Arterial or venous infection must meet at least ***one*** of the following criteria:		
1. Patient has organism(s) from extracted arteries or veins identified by a culture or non-culture based microbiologic testing method, which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
2. Patient has evidence of arterial or venous infection on gross anatomic or histopathologic exam.	☐	
3. Patient has at least ***one*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Pain*	☐	
• Erythema*	☐	
• Heat at involved vascular site*	☐	
AND		
• More than 15 colonies cultured from intravascular cannula tip using semi-quantitative culture method.	☐	
4. Patient has purulent drainage at involved vascular site.	☐	
5. Patient **≤1 year of age** has at least ***one*** of the following signs or symptoms:		
• Fever (>38.0°C)	☐	
• Hypothermia (<36.0°C)	☐	
• Apnea*	☐	
• Bradycardia*	☐	
• Lethargy*	☐	
• Pain*	☐	

• Erythema*	☐	
• Heat at involved vascular site*	☐	
AND		
• More than 15 colonies cultured from intravascular cannula tip using semi-quantitative culture method.	☐	
**With no other recognized cause*		

Reporting instructions:

- Report infections of an arteriovenous graft, shunt, fistula, or intravascular cannulation site without organism(s) identified from blood as CVS-VASC.
- Report Organ Space VASC infections as an SSI and not an LCBI when you have an SSI with secondary BSI.
- Report intravascular infections with organism(s) identified from the blood and meeting the LCBI criteria as BSI-LCBI.

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ENDO-Endocarditis

Criterion met: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

When meeting the Endocarditis (ENDO) definition:

- *The ENDO Infection Window Period is defined as the 21 days during which all site-specific infection criteria must be met. It includes the date the first positive diagnostic test that is used as an element of the ENDO criterion was obtained, the 10 calendars days before and the 10 calendar days after. The Infection Window Period is lengthened for this event to accommodate the* extended *diagnostic timeframe that is frequently required to reach a clinical determination of endocarditis.*
- *The RIT for Endocarditis (ENDO) is extended to include the remainder of the patient's current admission.*
- *When meeting the Endocarditis (ENDO) definition, the secondary BSI attribution period includes the 21-day infection window period* ***and all subsequent days of the patient's current admission.***
  - *As a result of this lengthy secondary BSI attribution period, secondary BSI pathogen assignment for ENDO is limited to organism(s) identified in blood specimen that match the organism(s) used to meet the ENDO definition.*
    - *Example: If the ENDO definition was met using a site-specific specimen (for example, cardiac vegetation) or using a blood specimen with S. aureus as the identified organism, if a blood specimen collected during the ENDO secondary BSI attribution period is positive for S. aureus and E. coli, while the S. aureus can be assigned to the ENDO event, it cannot be assumed the E. coli can be assigned as a secondary BSI pathogen. The blood organism (E. coli) does not match the organism (S. aureus) used to meet the ENDO definition. If the blood specimen can be used to meet an ENDO definition criterion both organisms can be assigned. Otherwise, the E. coli will need to be investigated as a separate BSI and identified as a secondary BSI to another site-specific infection or determined to be a primary BSI.*

Endocarditis of a natural or prosthetic heart valve must meet at least ***one*** of the following criteria:		
Element	**Element Met**	**Date**
ENDO 1*		
Organism(s) identified from cardiac vegetation†, cardiac tissue, explanted prosthetic valve or sewing ring, ascending aortic graft (with evidence of valve involvement‡), endovascular intracardiac implantable electronic device (CIED), or arterial embolus by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
ENDO 2		
Endocarditis¶ seen on histopathologic examination of cardiac vegetation, cardiac tissue, explanted prosthetic valve, or sewing ring, ascending aortic graft (with evidence of valve involvement‡), endovascular intracardiac implantable electronic device (CIED), or embolus by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
ENDO 3		
Intraoperative evidence of endocarditis on gross anatomic exam during a cardiac operative procedure.	☐	

ENDO 4			
At least ***one*** of the following echocardiographic or cardiac CT imaging test evidence of endocarditis[§]:			
i.	Vegetation on cardiac valve or supporting structures[†]	☐	
ii.	Valvular/leaflet perforation	☐	
iii.	Valvular/leaflet aneurysm	☐	
iv.	Perivalvular or peri graft abscess	☐	
v.	Pseudoaneurysm	☐	
vi.	Intracardiac fistula	☐	
vii.	Significant new valvular regurgitation as compared to with previous imaging (on echocardiography only)	☐	
viii.	New partial dehiscence of prosthetic valve (compared with previous imaging)		
OR			
At least one of the following 18 F-fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) imaging test evidence of endocarditis[§]:			
ix.	Abnormal metabolic activity involving a native or prosthetic valve[‖], ascending aortic graft (with accompanying evidence of valve involvement), intracardiac device leads or other prosthetic material >3 months after cardiac surgery.	☐	
x.	Abnormal metabolic activity ≤3 months implantation of prosthetic valve[‖], ascending aortic graft (with evidence of valve involvement), intracardiac device leads or other prosthetic material.	☐	
AND at least ***one*** of the following:			
a.	Typical infectious endocarditis organism(s): *Staphylococcus aureus*, *Staphylococcus lugdunensis*, *Enterococcus faecalis*, all Streptococcal species (except for *Streptococcus pneumoniae* and *Streptococcus pyogenes*), *Granulicatella* and *Abiotrophia* spp., *Gemella* spp., HACEK group microorganisms (*Haemophilus* species, *Aggregatibacter actinomycetemcomitans*, *Cardiobacterium hominis*, *Eikenella corrodens*, and *Kingella kingae*) identified from ≥2 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimen collection by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
b.	Typical infectious endocarditis organism(s) in the presence of prosthetic material: coagulase-negative *Staphylococci, Corynebacterium striatum, Corynebacterium jeikeium, Serratia marcescens, Pseudomonas aeruginosa, Cutibacterium acnes*, non-tuberculous *Mycobacteria*, and *Candida* spp. identified from ≥2 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimen collection by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
c.	Non-typical infectious endocarditis organism(s) identified from ≥3 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimen collection by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
d.	*Coxiella burnetii* identified by anti-phase I IgG antibody titer >1:800 or identified from a single blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	

e.	Indirect immunofluorescence assays (IFA) for detection of IgM and IgG antibodies to *Bartonella henselae* or *Bartonella quintana* with IgG titer ≥1:800.	☐	
f.	*Coxiella burnetii*, *Bartonella* species, or *Tropheryma whipplei* identified in blood by PCR or other non-culture-based testing method.	☐	
ENDO 5			
At least ***three*** of the following ***(Note: Meaning one element from i, ii, iii, iv, or v and only one condition within each element can be used.)*****:**			
i.	Prior endocarditis, prosthetic valve, previous valve repair, endovascular cardiac implantable electronic devices (CIED), uncorrected congenital heart disease[#], more than mild regurgitation or stenosis of any etiology, hypertrophic obstructive cardiomyopathy, or known IV drug use[**].	☐	
ii.	Fever (>38.0°C).	☐	
iii.	New valvular regurgitation on auscultation.	☐	
iv.	Vascular phenomena: major arterial emboli (specifically, embolic stroke, renal infarct, splenic abscess, cerebral abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented.	☐	
v.	Immunologic phenomena: immune complex-mediated glomuleronephritis, Osler's nodes, Roth's spots, or positive rheumatoid factor.	☐	
AND at least ***one*** of the following:			
a.	Typical infectious endocarditis organism(s): *Staphylococcus aureus, Staphylococcus lugdunensis, Enterococcus faecalis*, all Streptococcal species (except for *Streptococcus pneumoniae* and *Streptococcus pyogenes*), *Granulicatella* and *Abiotrophia* spp., *Gemella* spp., HACEK microorganisms group *(Haemophilus* species*, Aggregatibacter actinomycetemcomitans, Cardiobacterium hominis, Eikenella corrodens,* and *Kingella kingae*) identified from ≥2 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimens by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
b.	Typical infectious endocarditis organism(s) in the presence of prosthetic material: coagulase negative *Staphylococci, Corynebacterium striatum, Corynebacterium jeikeium, Serratia marcescens, Pseudomonas aeruginosa, Cutibacterium acnes,* non-tuberculous *Mycobacteria,* and *Candida* spp. identified from ≥2 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimens by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
c.	Non-typical infectious endocarditis organism(s) identified from ≥3 matching blood collections drawn on separate occasions with no more than 1 calendar day between specimen collections by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	
d.	*Coxiella burnetii* identified by anti-phase I IgG antibody titer >1:800 or identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	

e.	Indirect immunofluorescence assays (IFA) for detection of IgM and IgG antibodies to *Bartonella henselae* or *Bartonella quintana* with IgG titer > 1:800.	☐	
f.	*Coxiella burnetii*, *Bartonella* species, or *Tropheryma whipplei* identified in blood by PCR or other non-culture-based testing method.	☐	
ENDO 6			
At least ***one*** of the following echocardiographic or cardiac CT imaging test evidence of endocarditis[§]:			
i.	Vegetation on cardiac valve or supporting structures[†]	☐	
ii.	Perivalvular or peri graft abscess	☐	
iii.	New partial dehiscence of prosthetic valve	☐	
iv.	Valvular/leaflet perforation	☐	
v.	Valvular/leaflet aneurysm	☐	
vi.	Pseudoaneurysm	☐	
vii.	Intracardiac fistula	☐	
viii.	New valvular regurgitation (on echocardiography only)	☐	
OR			
At least one of the following 18 F-fluorodeoxyglucose positron emission tomography/computed tomography (FDG PET/CT) imaging test evidence of endocarditis[§]:			
ix.	Abnormal metabolic activity involving a native or prosthetic valve[ll], ascending aortic graft (with accompanying evidence of valve involvement), intracardiac device leads or other prosthetic material > 3 months after cardiac surgery.	☐	
x.	Abnormal metabolic activity ≤ 3 months implantation of prosthetic valve[ll], ascending aortic graft (with evidence of valve involvement), intracardiac device leads or other prosthetic material.	☐	
AND			
a.	Prior endocarditis, prosthetic valve, previous valve repair, endovascular cardiac implantable electronic devices (CIED), uncorrected congenital heart disease[#] more than mild regurgitation or stenosis of any etiology, hypertrophic obstructive cardiomyopathy, or known IV drug use[**].	☐	
b.	Fever (>38.0°C).	☐	
c.	Vascular phenomena: major arterial emboli (specifically, embolic stroke, renal infarct, splenic abscess, cerebral abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented.	☐	
d.	Immunologic phenomena: immune complex-mediated glomuleronephritis (documented in chart), Osler's nodes, Roth's spots, or positive rheumatoid factor.	☐	
e.	Identification of organism(s) from the blood by at least ***one*** of the following methods: • Recognized pathogen(s) identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST). • Same common commensal organism(s) identified from ≥2 blood collections drawn on separate occasions on the same or consecutive days by a culture or non-culture based microbiologic testing method which is	☐	

performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).		
ENDO 7		
One condition from each of the following elements (a, b, c, d, e, f, and g):		
a. Prior endocarditis, prosthetic valve, previous valve repair, endovascular cardiac implantable electronic devices (CIED), uncorrected congenital heart disease[#], more than mild regurgitation or stenosis of any etiology, hypertrophic obstructive cardiomyopathy, or known IV drug use[**].	☐	
b. Fever (>38.0°C).	☐	
c. New valvular regurgitation on auscultation.	☐	
d. Vascular phenomena: major arterial emboli (specifically, embolic stroke, renal infarct, splenic abscess, cerebral abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented.	☐	
e. Immunologic phenomena: immune complex-mediated glomuleronephritis (documented in chart), Osler's nodes, Roth's spots, or positive rheumatoid factor.	☐	
f. Identification of organism(s) from the blood by at least ***one*** of the following methods: • Recognized pathogen(s) identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST). • Same common commensal organism(s) identified from ≥ 2 blood collections drawn on separate occasions on the same or consecutive days by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).	☐	

Reporting Instructions:

* The following is also eligible to ENDO 1:
  - Positive culture from a pacemaker/defibrillator lead or ventricular assist device (VAD) components within the heart.

† Cardiac vegetation can be found on a cardiac valve, endovascular CIED (including pacemaker/defibrillator leads), explanted prosthetic valve or sewing ring, or ventricular assist device (VAD) components within the heart.

‡ "With evidence of valve involvement" is defined as **one** of the following:
- Echocardiography and/or cardiac CT showing aortic valve vegetation, valvular/leaflet perforation, valvular/leaflet aneurysm.
- Significant new aortic valve regurgitation on echocardiography as compared with previous imaging.
- New partial dehiscence of prosthetic aortic valve as compared with previous imaging.
- Positron emission computed tomography with 18F-FDG: abnormal metabolic activity involving prosthetic aortic valve (implanted >3 months ago) or involving native aortic valve.
- Aortic valve vegetation, valvular/leaflet perforation, valvular/leaflet aneurysm, or partial dehiscence of prosthetic aortic valve documented by direct inspection during heart surgery.

¶ Endocarditis is defined as:

- Active endocarditis—vegetations, leaflet destruction, or adjacent tissue of native or prosthetic valves showing variable degrees of inflammatory cell infiltrates and healing.
- Acute endocarditis—vegetations or cardiac/aortic tissue lesions of native or prosthetic valves showing active inflammation without significant healing or organizational change.
- Subacute/chronic endocarditis—vegetations or cardiac/aortic tissue lesions of native or prosthetic valves demonstrating evidence of healing or attempted healing: maturing granulation tissue and fibrosis showing variable mononuclear cell infiltration and/or calcification.

§ Which if equivocal is supported by clinical correlation (specifically, physician or physician designee documentation of antimicrobial treatment for endocarditis).

|| For prosthetic valve endocarditis (PVE): intense, focal/multifocal, or heterogeneous FDG uptake patterns; for native valve endocarditis and cardiac device leads, any abnormal uptake pattern.

Includes cyanotic CHD (tetralogy of Fallot, univentricular heart, complete transposition, truncus arteriosus, hypoplastic left heart); endocardial cushion defects; ventricular septal defect; left-sided lesio † ns (bicuspid aortic valve; aortic stenosis and insufficiency, mitral valve prolapse, mitral stenosis and insufficiency); right-sided lesions (Ebstein anomaly, anomalies of the pulmonary valve, congenital tricuspid valve disease); patent ductus arteriosus; and other congenital anomalies, with or without repair.

** Elements of 5i, 6a, and 7a documented during the current admission:

- May be documented outside of the ENDO infection window period or SSI surveillance period.
- Should not be used to set the ENDO date of event.