



Cardio Policy:

Transthoracic Echocardiography (TTE)

POLICY NUMBER UM CARDIO_1121	SUBJECT Transthoracic Echocardiography (TTE)		DEPT/PROGRAM UM Dept	PAGE 1 OF 10
DATES COMMITTEE REVIEWED 07/22/11, 12/12/12, 03/10/14, 05/21/14, 09/21/14, 11/12/14, 08/12/15, 11/28/16, 12/21/16, 10/10/17, 02/13/19, 03/08/19, 04/24/19, 07/30/19, 12/11/19, 05/13/20, 07/31/20, 10/14/20, 01/13/21, 05/12/21, 07/21/21, 08/11/21, 11/10/21, 01/12/22, 02/09/22, 03/09/22	APPROVAL DATE March 9, 2022	EFFECTIVE DATE March 25, 2022	COMMITTEE APPROVAL DATES 07/22/11, 12/12/12, 03/10/14, 05/21/14, 09/21/14, 11/12/14, 08/12/15, 11/28/16, 12/21/16, 10/10/17, 02/13/19, 03/08/19, 04/24/19, 07/30/19, 12/11/19, 05/13/20, 07/31/20, 10/14/20, 01/13/21, 05/12/21, 07/21/21, 08/11/21, 11/10/21, 01/12/22, 02/09/22, 03/09/22	
PRIMARY BUSINESS OWNER: UM		COMMITTEE/BOARD APPROVAL Utilization Management Committee		
URAC STANDARDS HUM v8: UM 1-2; UM 2-1	NCQA STANDARDS UM 2		ADDITIONAL AREAS OF IMPACT	
CMS REQUIREMENTS	STATE/FEDERAL REQUIREMENTS		APPLICABLE LINES OF BUSINESS Commercial, Exchange, Medicaid	

I. PURPOSE

Indications for determining medical necessity for Transthoracic Echocardiography (TTE).

II. DEFINITIONS

Transthoracic echocardiography is a sonogram of the heart. It uses standard ultrasound techniques to image two-dimensional slices of the heart.

In addition to creating two-dimensional pictures of the cardiovascular system, an echocardiogram can also produce accurate assessment of the velocity of blood and cardiac tissue at any arbitrary point using pulsed, continuous wave or color flow ultrasound. This allows assessment of cardiac valve areas and function, any abnormal communications between the left and right side of the heart, any leaking of blood through the valves (valvular regurgitation), and calculation of the cardiac output as well as the ejection fraction. Other parameters measured include cardiac dimensions (luminal diameters and septal thicknesses).

Appropriate Use Criteria (AUC score) for a service is one in which the expected incremental information, combined with clinical judgment, exceeds the expected negative consequences by a sufficiently wide margin for a specific indication that the procedure is generally considered acceptable care and a reasonable approach for the indication. The ultimate objective of AUC is to improve

patient care and health outcomes in a cost-effective manner but is not intended to ignore ambiguity and nuance intrinsic to clinical decision making.

Appropriate Care- Median Score 7-9

May be Appropriate Care- Median Score 4-6

Rarely Appropriate Care- Median Score 1-3

III. POLICY

Indications for approving a request for medical necessity are:

A. Native Valvular Heart Disease

1. Appropriate when clinical signs or symptoms suggest presence of Valvular Heart Disease and no echocardiogram has been performed within the last 12 months. **(AUC Score 9)^{1,2,3,4,5}**
2. Asymptomatic patient every 3 years for mild valvular (aortic and mitral only) stenosis/regurgitation **(AUC Score 7)**^{1,2,3,4,5}; every 12 months for moderate or severe. **(AUC Score 7)**^{1,2,3,4,5}
3. Symptomatic (SOB/fatigue) patient with severe mitral or aortic stenosis/regurgitation and no echocardiogram within the last 6 months. **(AUC Score 9)**^{1,2,3,4,5}
4. Symptomatic (SOB/fatigue) patient with mild/moderate mitral or aortic stenosis/regurgitation and no echocardiogram within the last 6 months. **(AUC Score 8)**^{1,2,3,4,5}
5. Symptomatic (SOB/fatigue) patient with moderate or severe tricuspid stenosis/regurgitation and no echocardiogram within the last 6 months. **(AUC Score 9)**^{1,2,3,4,5}
6. Asymptomatic patient with moderate or severe tricuspid stenosis/regurgitation and no echocardiogram within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5}

B. Prosthetic Heart Valves (Mechanical and Bio-prostheses)

1. TTE assessment is appropriate when clinical signs or symptoms suggest prosthetic valve malfunction and no echocardiogram performed within the last 3 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Initial post-operative evaluation after valvular intervention within the first 3 months and yearly thereafter. **(AUC Score 7)**^{1,2,3,4,5}

C. Endocarditis

1. Initial evaluation of suspected infective endocarditis with positive blood culture or a new murmur and no echocardiogram performed within the last 3 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Re-evaluation of infective endocarditis at high risk for progression or complication or with a change in clinical status on cardiac exam and no echocardiogram within the last 6 months. **(AUC Score 9)**^{1,2,3,4,5}
3. After completion of antibiotic therapy and no echocardiogram within the last 3 months. **(AUC Score 8)**^{1,2,3,4,5}

D. Heart Failure and Cardiomyopathies

1. Initial evaluation of suspected heart failure based on symptoms and signs and no echocardiogram within the last 12 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Re-evaluation of known heart failure with a change in clinical status in a patient on guideline directed medical therapy and diet adherence. No echocardiogram within the last 6 months. **(AUC Score 8)**^{1,2,3,4,5}
3. Routine surveillance every 12 months in the asymptomatic patient. **(AUC Score 7)**^{1,2,3,4,5}
4. Genetic susceptibility for Cardiomyopathy – once in a lifetime. **(AUC Score 8)**^{1,2,3,4,5}

5. Contrast echo is indicated when conventional study is suboptimal or inadequate to delineate LV endocardial border to assess LV function. **(AUC Score 8)^{1,2,3,4,5}**
6. Screening of patients with Stage B heart failure may be appropriate. **(AUC Score 6)⁶**

Eligibility criteria include:

- a. Patients with no previous diagnosis of heart failure and,
- b. Patient with no prior echo within the past 3 years and,
- c. 2 or more risk factors:
 - i. Hypertension- Primary or Secondary etiology on medications
 - ii. History of PVD
 - iii. DM- Type 1 or 2, on medications
 - iv. Hypertriglyceridemia (>150) or abnormal Hyperlipidemia on medications
 - v. Obesity (BMI >35)
- d. **OR** any one of the following findings:
 - i. Cardiac murmur
 - ii. Abnormal ECG, other than sinus rhythm (within the last one year)
 - iii. History of CAD or MI
 - iv. Elevated BNP or ProBNP
 - v. History of or active cardiac arrhythmia

Exclusion Criteria

- a. History of Stage A/B/C/D heart failure
 - b. Echo done within the past 3 years
 - c. Enrolled in hospice of palliative care
7. Peripartum Cardiomyopathy- It is defined as idiopathic cardiomyopathy occurring towards the end of pregnancy or in the months following delivery, abortion, or miscarriage, without other causes of heart failure and with a left ventricular ejection fraction <45%.
 - a. Initial echocardiogram is appropriate when history, clinical examination and labs like BNP/pro NT BNP suggests peripartum cardiomyopathy. **(AUC Score 9)^{5,9,10}**
 - b. Follow up echocardiogram is recommended at following intervals, while being on optimal GDMT
 - i. 4-6 weeks after diagnosis **(AUC Score 8)^{5,9,10}**
 - ii. 6 months after diagnosis **(AUC Score 8)^{5,9,10}**
 - iii. Annually for at least 5 years after diagnosis, only if LVEF is not fully recovered despite being on optimal medical therapy **(AUC Score 7)^{5,9,10}**
 8. Post-LVAD Implantation, a TTE using may be performed for the following:
 - a. LVAD Surveillance – to establish patient-specific “baseline” parameters for LVAD and native heart function may be performed approximately two weeks post implant **(AUC Score 9)¹⁶**, and then 1-, 3-, 6- months **(AUC Score 8)¹⁶**, and 12 months post implantation, followed by every 6-12 months thereafter **(AUC Score 7)¹⁶**, if there is no evidence of malfunction. This includes routine LVAD speed (ramp) testing at these intervals.
 - b. LVAD Problem-focused – in response to an LVAD controller alarm, to assess new or abnormally persistent symptoms, abnormal findings suggesting intravascular hemolysis

or infection, to follow up on prior abnormalities detected on an earlier TTE, or if the presence of any abnormalities that may suggest LVAD malfunction. **(AUC Score 8)¹⁶**

E. Coronary Artery Disease/Acute Myocardial Infarction

1. Follow up of an asymptomatic patient within 3 months following to a recent ACS/MI **(AUC Score 7)^{1,2,3,4,5}**

F. Hypertensive Cardiovascular Disease

1. Initial evaluation of suspected hypertensive heart disease in asymptomatic patient with no prior echocardiogram performed, should meet either of the below indications. **(AUC Score 8)^{1,2,3,4,5}**
 - a. Two or more anti-hypertensive medications,
 - b. With evidence of hypertensive heart disease on EKG or by other imaging modalities other than echo
2. **Limitation** – Echocardiogram in an asymptomatic patient on one antihypertensive medication with no evidence of LVH is not medically indicated
3. Uncontrolled Hypertension with or without SOB in a patient suspected of Hypertensive Heart Disease with no echocardiogram performed within the last 12 months. **(AUC Score 7)^{1,2,3,4,5}**
4. Hypertensive Heart Disease on ≥ 2 meds with or without change in clinical status. No echocardiogram within the last 12 months. **(AUC Score 7)^{1,2,3,4,5}**

G. Exposure to Cardio Toxic Agents

1. An initial TTE prior to planned chemotherapy with no prior echo within 6 months. Bimonthly during treatment period and a follow up echocardiogram up to 6 months after treatment is considered appropriate. **(AUC Score 9)^{1,2,3,4,5}**

H. Pericardial Disease

1. Pericardial pain and/or auscultatory and/or EKG findings suggestive of acute/recurrent pericarditis and no echocardiogram performed since the onset of presenting signs and/or symptoms within the last 6 months. **(AUC Score 7)^{1,2,3,4,5}**
2. Patient demonstrating symptoms/signs suggesting constrictive pericarditis and no echocardiogram performed since the onset of presenting signs and/or symptoms within the last 6 months. **(AUC Score 8)^{1,2,3,4,5}**
3. TTE may be appropriate when there is change in clinical status or a need to guide management or change therapy in a patient with pericardial effusion with no echocardiogram performed within the last 3 months. **(AUC Score 8)^{1,2,3,4,5}**
4. Moderate/large pericardial effusion in the asymptomatic patient and no echocardiogram within the last 12 months. **(AUC Score 7)^{1,2,3,4,5}**
5. Asymptomatic patient with a recent history of acute pericarditis and no pericardial effusion in the most recent echocardiogram. No echocardiogram within the last 12 months. **(AUC Score 7)^{1,2,3,4,5}**
6. Worsening symptoms (pericardial chest pain) in a patient with history of acute/recurrent pericarditis and no echocardiogram within the last 3 months. **(AUC Score 7)^{1,2,3,4,5}**

I. Congenital Heart Disease

1. Patient suspected of having adult congenital heart disease based on history/physical examination and/or imaging testing and no echocardiogram performed within the last 12 months. **(AUC Score 9)^{1,2,3,4,5}**
2. Patient with known adult congenital heart disease with a change in clinical status or to guide therapy. No echocardiogram performed within the last 6 months. **(AUC Score 9)^{1,2,3,4,5}**

3. Within 30 days post-operative from surgical or percutaneous intervention, or for any adverse clinical change at any time following such intervention. **(AUC Score 9)^{1,2,3,4,5}**
4. Asymptomatic patient with adult congenital heart disease following complete or palliative repair without residual structural or hemodynamic abnormality and/or without change in clinical status. No echocardiogram within the last 24 months. **(AUC Score 8)^{1,2,3,4,5}**
5. Asymptomatic patient with adult congenital heart disease following incomplete or palliative repair with residual structural or hemodynamic abnormality and/or without a change in clinical status. No echocardiogram within the last 12 months. **(AUC Score 9)^{1,2,3,4,5}**
6. Asymptomatic patient with congenital aortic valve disease within 30 days post-operative or surveillance if there is residual stenosis (every 12-24 months if mild, every 6-12 months if ≥ moderate). **(AUC Score 9)^{1,2,3,4,5}**
7. Asymptomatic patient post percutaneous or surgical intervention for aortic coarctation every 6 months within the first year, once per 12 months until 2 years post-operatively, and once every three years thereafter. **(AUC Score 9)^{1,2,3,4,5}**
8. Asymptomatic patient with anomalous origin of coronary artery(ies) in the presence of a small **(AUC Score 8)^{1,2,3,4,5}** or large **(AUC Score 9)^{1,2,3,4,5}** coronary fistula. No echocardiogram within last 24 months.
9. Post-operatively, in 30 days and one year. **(AUC Score 9)^{1,2,3,4,5}**
10. In first-degree relatives of patients with a known bi-leaflet aortic valve, a screening TTE may be performed to look for the presence of a bi-leaflet aortic valve or asymptomatic dilatation of the aortic root and ascending aorta. **(AUC Score 5)¹⁵**

J. Cardiac Tumors and Masses

1. To detect a cardiac source of embolism and no echocardiogram performed since the embolic episode occurred. **(AUC Score 9)^{1,2,3,4,5}**
2. Presence of cardiac tumor/thrombus on CT/MRI and no echocardiogram performed within the last 6 months. **(AUC Score 8)^{1,2,3,4,5}**
3. Predisposing condition(s) for intracardiac thrombus formation (i.e., atrial fibrillation) and no echocardiogram performed within the last 12 months. **(AUC Score 9)^{1,2,3,4,5}**

K. Diseases of Aorta

1. Baseline TTE is appropriate to evaluate the ascending aorta in a patient with known or suspected conditions that predispose to aortic aneurysm or dissection. No echocardiogram within the last 12 months. **(AUC Score 9)^{1,2,3,4,5}**
2. Re-evaluation with TTE in a patient with known aortic disease and a change in clinical status to establish a rate of expansion over baseline. No echocardiogram performed within the last 3 months. **(AUC Score 9)^{1,2,3,4,5}**
3. When an ascending thoracic aortic aneurysm measuring 4.5 cm is diagnosed by TTE, surveillance TTE may be performed every 12 months if stable or until it reaches 5.0 cm or growth is >0.5 cm/yr, at which point surveillance may be performed every 6 months. For patients with Marfan/Turner/Loeys-Dietz/Ehlers-Danlos/Familial TAA Syndromes or with a bi-leaflet aortic valve, the threshold for q6 month surveillance is 4.5 cm and growth >0.3 cm/year. **(AUC Score 7)¹⁴**

L. Peri-operative Evaluation of LV structure and function

1. TTE is considered appropriate in patients with severe valvular heart disease, that are undergoing noncardiac high-risk surgery and no echocardiogram has been performed within the last 3 months. **(AUC Score 9)^{1,2,3,4,5}**

M. Pulmonary Heart Disease

1. Evaluation of suspected (underlying predisposing condition) pulmonary hypertension and no echocardiogram within the last 12 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Re-evaluation of known pulmonary hypertension on guideline directed medical therapy with a change in clinical status and no echocardiogram performed within the last 6 months. **(AUC Score 9)**^{1,2,3,4,5}
3. Patient with pulmonary hypertension without a change in clinical status and no echocardiogram performed within the last 12 months. **(AUC Score 7)**^{1,2,3,4,5}
4. TTE is appropriate to guide therapy in a patient with a diagnosis of Pulmonary Embolism. No echocardiogram performed within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5}

N. Pre and Post Cardiac Transplant

1. TTE is an integral part of the cardiac donor selection and donor recipient matching process. No echocardiogram within the last 6 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Three TTE examinations in the first-year post-transplant is appropriate and every 12 months thereafter. **(AUC Score 7)**^{1,2,3,4,5}
3. In post-transplant patients that demonstrate a change in clinical status suggesting cardiac rejection. No echocardiogram within the last 3 months. **(AUC Score 7)**^{1,2,3,4,5}

O. Syncope

1. TTE can be considered in a patient with a cardiac diagnosis known to cause syncope/lightheadedness/pre-syncope (including but not limited to aortic stenosis, hypertrophic cardiomyopathy, or heart failure). No echocardiogram within the last 12 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Initial evaluation with echocardiogram is recommended in patients with syncope without other symptoms or signs of cardiovascular disease. **(AUC Score 8)**^{1,2,3,4,5}

P. LV function assessment pre and post cardiac device implantation

1. Evaluation or reevaluation of LV function in a patient on guideline directed medical therapy or after revascularization to determine candidacy for device therapy and/or to determine optimal choice of device. No echocardiogram within the last 3 months. **(AUC Score 9)**^{1,2,3,4,5}
2. In a patient with symptoms possibly due to device complications or suboptimal device settings. No echocardiogram within the last 3 months. **(AUC Score 8)**^{1,2,3,4,5}
3. TTE (93308) for AV optimization is indicated:
 - a. Within 6 weeks after device implantation **(AUC Score 6)**^{1,2,3,4,5}
 - b. Earlier than every 6 months after device implant is appropriate only if there is no improvement in symptoms or no improvement in functional capacity. **(AUC Score 8)**^{1,2,3,4,5}

Q. Murmur

1. Echocardiogram is appropriate in patients with newly diagnosed murmur, with no prior echo within last 12 months. **(AUC Score 9)**^{1,2,3,4,5}
2. Echocardiogram is appropriate in patients presenting with worsening intensity of murmur since last examination and echocardiogram. **(AUC Score 9)**^{1,2,3,4,5}

R. Preparticipation assessment of an asymptomatic athlete with 1 or more of the following: abnormal examination, abnormal ECG, or definite (or high suspicion for) family history of inheritable heart disease. **(AUC Score 9)**^{1,2,3,4,5}

S. Arrhythmias

1. Initial assessment with Echocardiogram is appropriate in patients with newly diagnosed LBBB and/or with evidence of frequent PVCs without evidence of other heart disease, with no prior echo within the last 6 months. **(AUC Score 7)^{1,2,3,4,5}**
2. Initial evaluation with Echocardiogram is appropriate in patients with evidence of non-sustained or atrial fibrillation/flutter or SVT to rule out underlying heart disease, with no prior echo within the last 6 months. **(AUC Score 8)^{1,2,3,4,5}**

T. Fetal Echocardiogram- Clinical indications for fetal echocardiography is based on parental and fetal risk factors for Congenital Heart Disease (CHD).

1. Fetal Factors
 - a. Suspected cardiac structural anomaly and function on an obstetrical ultrasound screen **(AUC Score 8)^{5,7,8}**
 - b. Hydrops fetalis **(AUC Score 8)^{5,7,8}**
 - c. Persistent fetal tachycardia (>180 beats/min) or bradycardia (<120 beats /min) or suspected heart block **(AUC Score 9)^{5,7,8}**
 - d. Major fetal extracardiac anomaly **(AUC Score 9)^{5,7,8}**
 - e. Nuchal translucency of $\geq 3.5\text{mm}$ **(AUC Score 9)^{5,7,8}**
 - f. Chromosomal abnormality **(AUC Score 8)^{5,7,8}**
 - g. Monochorionic twinning, Multiple gestation and suspicion of twin-twin transfusion syndrome **(AUC Score 8)^{5,7,8}**
 - h. Systemic venous anomaly (e.g., a persistent right umbilical vein, left superior vena cava, dilated coronary sinus or absent ductus venosus) **(AUC Score 9)^{5,7,8}**
2. Maternal or Familial Disease or Maternal Environmental Exposure
 - a. Pregestational diabetes regardless of the hemoglobin A_{1c} level **(AUC Score 8)^{5,7,8}**
 - b. Gestational diabetes diagnosed in the first or early second trimester **(AUC Score 8)^{5,7,8}**
 - c. In vitro fertilization **(AUC Score 8)^{5,7,8}**
 - d. Autoimmune disease with anti-Sjogren syndrome–related antigen A antibodies and with a prior affected fetus **(AUC Score 8)^{5,7,8}**
 - e. First-degree relative of a fetus with CHD (parents, siblings, or prior pregnancy) **(AUC Score 8)^{5,7,8}**
 - f. First-trimester rubella infection **(AUC Score 9)^{5,7,8}**
 - g. Selected teratogen exposure (e.g., paroxetine, carbamazepine, or lithium) **(AUC Score 8)^{5,7,8}**
 - h. Obesity (body mass index $\geq 30\text{ kg/m}^2$) **(AUC Score 7)^{5,7,8}**
 - i. Selective serotonin reuptake inhibitor antidepressant exposure other than paroxetine **(AUC Score 7)^{5,7,8}**
 - j. Abnormal maternal serum analytes (e.g., α -fetoprotein level) **(AUC Score 7)^{5,7,8}**
 - k. Isolated single umbilical artery **(AUC Score 9)^{5,7,8}**
 - l. Alcohol exposure and abnormal fetal obstetrical ultrasound screen **(AUC Score 8)^{5,7,8}**

Frequency Limitations¹³:

- a. The first fetal echocardiogram should be performed no earlier than week 16 of pregnancy. A follow-up is appropriate early in the 3rd trimester, but not beyond week 30.
- b. The frequency of follow-up is in part determined by the complexity of the congenital abnormality and would need to be reviewed on a case-by-case basis.

- c. For mothers with lupus, a fetal echo to assess for congenital heart block is appropriate starting at week 16, with follow-up studies every 1-2 weeks until week 28, then every other week until week 32.

U. Myocardial Strain- It can measure myocardial deformation which is an intrinsic mechanical property of the myocardium.

1. Cancer therapy induced cardiomyopathy- Cancer patients receiving chemotherapy and/or radiation therapy may develop cardiomyopathy years or decades after therapy is ended. Myocardial Strain is indicated to detect left ventricular dysfunction along with initial echo. **(AUC Score 8)**^{5,11,12}
2. Heart transplant recipients- Strain is appropriate to perform along with echocardiogram as one time test to assess myocardial function in heart transplant recipients with normal left ventricular function by as a screening tool in the identification of patients with poor clinical prognosis. **(AUC Score 7)**^{5,11,12}
3. It can be performed to assess Right Ventricular (RV) function in patients with congenital heart disease with evidence of pulmonary hypertension, amyloidosis, and Arrhythmogenic Right Ventricular Cardiomyopathy as an early indicator of RV dysfunction. **(AUC Score 8)**^{5,11,12}.
4. Strain in Ischemic Heart Disease to detect assessment of fibrosis and myocardial viability is considered as experimental and will not be approved.
5. Strain to assess myocardial function in non-ischemic cardiomyopathy like hypertrophic/dilated/restrictive cardiomyopathy is considered as experimental and will not be approved.

Limitations:

- A. Scenarios not meeting approval criteria within this policy may require consideration on a case-by-case basis.
- B. Requests for services that are part of a surveillance protocol for patients who are involved in a clinical trial are considered out of scope (OOS) for New Century Health and cannot be reviewed.

IV. PROCEDURE

- A. In order to review a request for medical necessity, the following items must be submitted for review
 1. Progress note that prompted request
 2. Most recent Echocardiogram or MUGA results
 3. Most recent Nuclear Stress Test (if applicable)
- B. Primary codes appropriate for this service: 93306- Complete Transthoracic Echocardiogram. Limited Echo; 93303- Transthoracic echocardiography for congenital cardiac anomalies, complete. 93304- Transthoracic echocardiography for congenital cardiac anomalies; follow-up or limited study. 93307- Echocardiography, transthoracic, real-time with image documentation (2D), includes M-mode recording, when performed, complete, without spectral or color Doppler echocardiography. 93308- Echocardiography, transthoracic, real-time with image documentation (2D), includes M-mode recording, when performed, follow-up or limited study. 93320 and/ or 93325 can be reported with 93303, 93304. 93221 is identical to 93320 but may also be reported with 93308 (limited echo). 93674: performance of a "bubble study" (IV injection of agitated saline)

93356 is the code for myocardial strain using speckle tracking imaging that is reported in addition to 93306

Fetal Echocardiogram- 76825- Echocardiography, fetal, cardiovascular system, real time with image documentation (2D), with or without M-mode recording and 76826- follow-up or repeat study are considered out of scope for New Century Health. Codes for fetal echocardiogram in scope for New Century Health are 93320- Doppler echocardiography, pulsed wave and/or continuous wave with spectral display; 93325- Doppler echocardiography color flow velocity mapping.

V. APPROVAL AUTHORITY

- A. Review – Utilization Management Department
- B. Final Approval – Utilization Management Committee

VI. ATTACHMENTS

- A. None

VII. REFERENCES

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