



Cardio Policy:

Cardiac Surveillance Following COVID-19 Infection

POLICY NUMBER UM CARDIO_1427	SUBJECT Cardiac Surveillance Following COVID-19 Infection		DEPT/PROGRAM UM Dept	PAGE 1 OF 5
DATES COMMITTEE REVIEWED 05/12/21, 11/09/21, 01/13/22, 02/09/22, 03/09/22	APPROVAL DATE March 9, 2022	EFFECTIVE DATE March 25, 2022	COMMITTEE APPROVAL DATES 05/12/21, 11/09/21, 01/13/22, 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 screening and surveillance of cardiac complications related to post-acute COVID-19 infection.

II. DEFINITIONS

Infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a systemic disease referred to as COVID-19 that represents a syndrome involving multiple organ systems. Sequelae involving the cardiovascular system are often unrelated to the overall severity of infection and the degree to which other organs are affected and can persist well beyond the acute phase of the illness. Early evidence of myocardial injury is usually discovered by biomarkers and EKG changes that lead to further cardiac testing, and clinical manifestations include myocardial injury, heart failure, thromboembolic events, and cardiogenic shock. Pre-existing heart disease in COVID-19 patients can predispose to cardiac manifestations and should prompt early evaluation. The decision to pursue multimodality imaging is based on the severity and duration of the patient's condition.

Post-acute COVID-19 is defined as persistent symptoms and/or delayed or long-term complications beyond four weeks from the onset of symptoms. With respect to cardiac symptoms, they include, but are not limited to chest pain, palpitations, and symptoms consistent with heart failure (shortness of breath, cough, fatigue, muscle weakness), as well as acute thromboembolic events. Given the overlap of these symptoms with those of other organ systems, cardiac testing is necessary to

determine their etiology. In addition to clinical presentation (heart failure, ACS, arrhythmias, cardiogenic shock), manifestations on presentation to suggest cardiac involvement include abnormal findings on 12-lead EKG (morphological changes and arrhythmias), echocardiography (segmental wall motion abnormalities, overall depressed left and/or right ventricular function, pericardial effusion, pulmonary hypertension), and cardiac MRI imaging (CMR) (late gadolinium enhancement (LGE) suggestive of myocarditis). Such abnormalities need to be followed and surveilled, especially in symptomatic individuals. The choice of imaging test during the post-acute phase is dependent upon the clinical presentation of the patient at that time.

Competitive athletes warrant special consideration, as such individuals found with cardiac involvement require a mandatory 3–6-month convalescence period followed by documentation of normalization of abnormal findings before being allowed to return to participation (RTP).

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 surveillance testing:

A. Echocardiography

1. Initial TTE is recommended for individuals following acute COVID-19 infection who develop new symptoms of CHF, palpitations, chest pain, or persistent dyspnea, regardless of cardiac involvement during the acute disease phase. **(AUC Score 8)**^{1,2,3,4,5,6,7,10}
2. Repeat TTE 3 months following acute infection is recommended for individuals who have had confirmed cardiac abnormalities manifesting as clinical findings including, but not limited to heart failure, arrhythmias, troponin and/or BNP leaks, if currently asymptomatic. GDMT should have been applied. A follow up study is recommended once again in 3 months if GDMT is being up titrated until need for ICD is determined, otherwise every 12 months if the patient is stable. **(AUC Score 7)**^{1,2,3,4,5,6,7,10}
3. Repeat TTE 3 months following acute infection is recommended for individuals who have had confirmed cardiac abnormalities manifesting as clinical findings including, but not limited to heart failure, arrhythmias, troponin and/or BNP leaks, and complain of persistent symptoms of palpitations or dyspnea beyond four weeks following an acute infection if any of the following were identified during the acute infection: Abnormal EKG/arrhythmia, echocardiogram, CMR. A follow up study is recommended once again in 3 months if GDMT is being up titrated until need for ICD is determined, followed by once every 12 months if the patient is stable. **(AUC Score 8)**^{1,2,3,4,5,6,7,10}

B. EKG Monitoring

1. Ambulatory EKG monitoring is recommended for individuals with persistent symptoms of palpitations, syncope, or near syncope beyond 4 weeks following acute COVID infection, timeframe to be dictated by frequency of symptoms. **(AUC Score 9)**^{1,2,3,4,5,6,7,10}

Implanted Loop Recorders (ILRs) are excluded from this policy and such requests should be referred to UM CARDIO_1146 Implantation of Loop Recorder Systems.

C. Stress Testing

1. Treadmill stress testing is recommended for individuals with persistent symptoms of chest pain or exertional dyspnea and/or palpitations beyond 3 months following acute COVID-19 infection, to assess exercise tolerance and for exertional arrhythmias and inducible ischemia, assuming no prior coronary or ischemic assessment had been performed in the prior 6 months. Imaging with myocardial perfusion or echocardiography is recommended for patients with uninterpretable baseline EKG or abnormal treadmill testing. **(AUC Score 8)**^{1,2,3,4,5,6,7,10}

D. Advanced Coronary Imaging

1. Imaging with coronary CTA or invasive coronary angiography is recommended for patients with ongoing symptoms of chest pain and/or shortness of breath who have abnormal non-invasive functional testing, regardless of negative such testing prior to acute COVID-19 infection **(AUC Score 8)**^{1,2,3,4,5,6,7,10}

E. Cardiac MRI

1. Cardiac MRI (CMR) may be useful for assessing patients with persistence of symptoms and wall motion abnormalities or ventricular dysfunction on echocardiography or other forms of imaging more than 3 months following acute COVID-19 infection. A follow up study is recommended once again in 3 months if GDMT is being up titrated until need for ICD is determined, otherwise every 12 months if the patient is stable **(AUC Score 7)**^{1,2,3,4,5,6,7,10}

F. Competitive athletes

1. Repeat echocardiogram to evaluate for resolution of previous abnormal findings due to acute COVID-19 infection is recommended 3 months following acute infection before RTP. A follow up study is recommended once again in 3 months if GDMT is being up titrated until need for ICD is determined, otherwise every 12 months if the patient is stable **(AUC Score 8)**^{8,9,10,12}
2. A follow up CMR study is recommended once again in 3 months following an initial abnormal if the initial study showed decreased LV systolic function and GDMT is being up titrated until need for ICD is determined, otherwise every 12 months if the patient is stable **(AUC Score 8)**^{8,9,10,12}
3. Treadmill exercise testing is recommended to assess for exertional ventricular arrhythmias in individuals who have had abnormal biomarkers along with abnormal echo and/or CMR findings 3 months following acute infection before RTP **(AUC Score 8)**^{8,9,10,12}

G. Vascular Studies

1. The performance of venous and arterial ultrasound studies to assess for thromboembolic (TE) events is recommended for patients for whom such a diagnosis is suspected based on history and physical findings elicited during the post-acute phase of COVID infection, for whom TE prophylaxis was not provided during their acute illness **(AUC Score 8)**^{8,9,10,11}

Limitations

- A. Seropositivity alone in COVID-19 patients is not an indication for screening for cardiac abnormalities in the absence of positive cardiac biomarkers, a new EKG abnormality, or new symptoms, including chest pain, palpitations, shortness of breath, orthopnea, peripheral edema.
- B. Follow-up testing is not recommended for asymptomatic patients not having evidence of elevations in high-sensitivity cardiac troponin I (hs-cTnI) and/or B-type natriuretic peptide [BNP] and/or N-terminal pro-BNP [NT-proBNP], and/or EKG or echocardiogram abnormalities during their acute phase of COVID-19 illness.

- C. Once follow-up testing becomes normal or at pre-COVID baseline, no ongoing/surveillance testing specific to COVID-19 illness is recommended.
- D. The need for surveillance testing/imaging in asymptomatic competitive athletes recovering from COVID-19 and have been negative for biomarkers is not recommended.
- E. Return to participation (RTP) in athletic activity should not be based alone on CMR results and require that 1) LV systolic function has normalized since any insult acquired from acute COVID infection; 2) all serum biomarkers of myocardial injury, inflammation, and heart failure have normalized; and 3) arrhythmias are absent on ambulatory monitoring and/or graded exercise EKG.
- F. 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. To review a request for medical necessity, the following items must be submitted for review:
 - 1. Office/hospital progress notes that document symptoms, results of prior abnormal cardiac testing, and documented COVID-19 infection history
- B. Primary codes appropriate for this service as per individual policies:
 - 1. Echo: UM CARDIO_1121 Transthoracic Echocardiography (TTE)
 - 2. Holter/Ziopatch (up to 48 hours; up to 7 days; up to 15 days): UM CARDIO_1082 Ambulatory EKG Monitoring
 - 3. 30-Day Event Recorder: UM CARDIO_1085 Patient Activated Event Recorder
 - 4. Stress Testing: UM CARDIO_1114 Cardiovascular Stress Test; UM CARDIO_1084 Myocardial Perfusion Imaging-Exercise Nuclear Stress Testing; UM CARDIO_1119 Pharmacological Nuclear Stress Test/Myocardial Perfusion Imaging; UM CARDIO_1123 Stress Echocardiography with or without Doppler; UM CARDIO_1124 Positron Emission Tomography (PET) Myocardial Imaging
 - 5. CMR: UM CARDIO_1113 Cardiac Magnetic Resonance Imaging (MRI)
 - 6. Coronary CTA: UM CARDIO_1115 Coronary and/or Cardiac Computed Tomographic Angiography
 - 7. Invasive Coronary Angiography: UM CARDIO_1087 Left Heart Catheterization and Bypass Angiography; UM CARDIO_1088 Right and Left Heart Catheterization; UM CARDIO_1127 Left Heart Catheterization; UM CARDIO_1128 Right and Left Heart Cath and Bypass Angiography

V. APPROVAL AUTHORITY

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

VI. ATTACHMENTS

- A. None

VII. REFERENCES

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