

Table 1. Cardiac Evaluation in Athletes with Prior COVID-19 Infection

Clinical Scenario	Recommended Assessment	Comments
<p>Athletes with prior asymptomatic infection as confirmed antibody to SARS-Coronavirus-2</p>	<p><u>Focused Medical History and Physical Examination</u> to screen for findings newly emergent in the COVID-19 era.</p> <p>Consider 12-lead ECG*</p> <ul style="list-style-type: none"> • If ECG is abnormal or shows new repolarization changes compared to a prior ECG, then additional evaluation with at minimum an echocardiogram and exercise test is warranted in conjunction with a sports cardiologist. 	<ul style="list-style-type: none"> • Myopericarditis related to COVID-19 should be considered in patients with a history of new onset chest pain/pressure (even in the absence of fever and respiratory symptoms), palpitations, or exercise intolerance. • Comprehensive clinical evaluation, regardless of ECG findings, is indicated in athletes with new onset cardiovascular symptoms or exercise intolerance.
<p>Athletes with a history of mild illness (non-hospitalized) related to confirmed or suspected COVID-19</p>	<p><u>Focused Medical History and Physical Examination</u> to screen for persistent or new post-infectious findings following COVID-19 infection.</p> <p>Perform 12-lead ECG*</p> <ul style="list-style-type: none"> • <u>If ECG is abnormal or shows new repolarization changes compared to a prior ECG</u>, then additional individualized evaluation is warranted, including at minimum echocardiography and exercise testing, in conjunction with a sports cardiologist. 	<ul style="list-style-type: none"> • ECG findings that may indicate viral-induced myocardial injury include: pathological Q waves, ST segment depression, (new) diffuse ST segment elevation, and T-wave inversion. • Comprehensive clinical evaluation, regardless of ECG findings, is indicated in athletes with new onset cardiovascular symptoms or exercise intolerance.
<p>Athletes with a history of moderate to severe illness (hospitalized) related to confirmed or suspected COVID-19</p>	<p>Comprehensive evaluation prior to return to sport, in conjunction with a sports cardiologist, to include blood biomarker assessment (i.e. hs-Tn, NP), 12-lead ECG, echocardiography, exercise testing, and ambulatory rhythm monitoring.</p>	<ul style="list-style-type: none"> • Myocardial injury is more likely in patients with a more severe disease course, and normal cardiac function and exercise tolerance should be established prior to a return to exercise. • Cardiac MRI may be considered based on clinical suspicion of myocardial injury.**

<p>Athletes with a history of COVID-19 infection (regardless of severity) AND documented myocardial injury as indicated by one or more of the following: in-hospital ECG changes, hs-Tn or NP elevation, arrhythmia, or impaired cardiac function.</p>	<p>Comprehensive evaluation prior to return to sport, in conjunction with a sports cardiologist, to include: blood biomarker assessment (i.e. hs-Tn, NP), 12-lead ECG, echocardiography, exercise testing, ambulatory rhythm monitoring, and cardiac MRI.**</p>	<ul style="list-style-type: none"> • Return to training should be gradual and under the supervision of a cardiologist. • Longitudinal follow-up including serial cardiac imaging may be required in athletes with initially abnormal cardiac function.
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hs-Tn = high sensitivity cardiac troponin, NP = natriuretic peptide; ECG = electrocardiogram; MRI = magnetic resonance imaging

*ECG as a screening test to exclude myocarditis is limited. ECG in patients with myocarditis may be normal or show nonspecific abnormalities. Additional evaluation may be warranted based on clinical suspicion.

**Cardiac MRI should be performed with gadolinium to assess for myocardial scar and late gadolinium enhancement (LGE). The presence of LGE is associated with a higher risk of major adverse cardiovascular events.