RETURN TO FLIGHT AND SPECIAL OPERATOR DUTY GUIDANCE

POST SARS-CoV-2 INFECTION

Supersedes 3 Sep 2020 Version

Current version highlights:

1) NIH definitions are used to categorize COVID-19 disease severity.

2) Virtual clinical evaluation is included as an option for RTFS in certain categories:

> Asymptomatic infection.
>
> Mild illness in GBO/FC II/III/SWA personnel if only minimal symptoms during the course of illness. Note that if the illness presented with more than minimal symptoms, in-person clinical evaluation is recommended for RTFS. "Minimal" is a provider- and patient-specific clinical judgement in this algorithm. For the purposes of this guidance, "minimal" does not include signs/symptoms concerning for lower respiratory or cardiac involvement or neurologic/neurocognitive symptoms. Both prompt in-person evaluation for RTFS. For high-performance aircrew, ECG and/or troponin should be considered for even minimal cardiac signs/symptoms, such as ectopy or tachycardia.

3) Moderate or greater illness: In-person evaluation including vitals, physical exam and exertional pulse oximetry is recommended for all aircrew and special duty operators. Additional testing is driven by flying/special operator duty class.

4) If the patient's course of illness included symptoms concerning for lower respiratory or cardiac involvement, the guidance recommends following the algorithm for "moderate or greater illness" for RTFS.

This algorithm is designed to support the flight surgeon's RTFS decision-making process. It applies important clinical factors for return to flight and special operator duties following SARS-CoV-2 infection. This is guidance, not policy, and may need adaptation to local situations or further COVID-19 developments.

Current version approved by HAF/SG3P 9 Feb 2022

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RETURN TO FLIGHT AND SPECIAL OPERATOR DUTY GUIDANCE POST SARS-CoV-2 INFECTION*			
CATEGORY[1]	**ATC/GBO**	**FC II/III/SWA**	**High-Performance Aircrew & Aircrew Requiring Routine Use of Aviator Mask**
Asymptomatic[1]	The following criteria suggest return to full duty is reasonable: DoD/CDC guidelines for discontinuation of isolation[2] PLUS: Virtual clinical evaluation - Confirming no cardiac or respiratory symptoms or limitations (e.g., chest pain, palpitations, dyspnea, exercise intolerance, etc.)[3]	The following criteria suggest return to full duty is reasonable: DoD/CDC guidelines for discontinuation of isolation[2] PLUS: Virtual clinical evaluation - Confirming no cardiac or respiratory symptoms or limitations (e.g., chest pain, palpitations, dyspnea, exercise intolerance, etc.)[3]	The following criteria suggest return to full duty is reasonable: DoD/CDC guidelines for discontinuation of isolation[2] PLUS: Virtual clinical evaluation - Confirming no cardiac or respiratory symptoms or limitations (e.g., chest pain, palpitations, dyspnea, exercise intolerance, etc.)[3]
Mild illness[1] *If signs/symptoms concerning for cardiac or lower respiratory involvement were experienced during the course of illness, follow algorithm for "moderate or greater illness" below.*	The following criteria suggest return to full duty is reasonable: All criteria above. Consider in-person clinical evaluation if other than minimal symptoms during the illness to confirm: - Normal respiratory, cardiac, neurologic and ENT exam - Normal vitals (BP, HR, afebrile, Sp02>94%) PLUS: - Cognitive screening/neuro exam if neuro signs/symptoms[10]	The following criteria suggest return to full duty is reasonable: All criteria above. PLUS: In-person clinical evaluation if other than minimal symptoms during the illness to confirm: - Normal respiratory, cardiac, neurologic and ENT exam - Normal vitals (BP, HR, afebrile, Sp02>94%) PLUS: - Normal exertional pulse oximetry if in-person evaluation warranted[4] - Cognitive screening/neuro exam if neuro signs/symptoms[10]	The following criteria suggest return to full duty is reasonable: All criteria above. PLUS: In-person clinical evaluation to confirm: - Normal respiratory, cardiac, neurologic and ENT exam - Normal vitals (BP, HR, afebrile, Sp02>94%) PLUS: - Normal exertional pulse oximetry[4] - Cognitive screening/neuro exam if neuro signs/symptoms[10] - ECG and/or troponin if readily available (recommended if even minimal cardiac s/sx, such as ectopy or tachycardia during the illness)[5]
Moderate or greater illness[1]	The following criteria suggest return to full duty is reasonable: In-person clinical evaluation meeting criteria above. PLUS: - Normal exertional pulse oximetry[4] - Cognitive screening/neuro exam if neuro signs/symptoms[10] - Assess for other complications as indicated[9]	The following criteria suggest return to full duty is reasonable: In-person clinical evaluation meeting criteria above. PLUS: - Normal exertional pulse oximetry[4] - Normal ECG[5] and troponin - Normal spirometry[6] - Cognitive screening/neuro exam if neuro signs/symptoms[10] - Assess for other complications as indicated[9]	The following criteria suggest return to full duty is reasonable: In-person clinical evaluation meeting criteria above. PLUS: - Normal exertional pulse oximetry[4] or formal stress test (preferred) - Normal ECG[5], troponin, and echocardiogram or cardiac MR[7] - Normal full PFTs with DLCO[8] - Cognitive screening/neuro exam if neuro signs/symptoms[10] - Assess for other complications as indicated[9]

* Reference DoD Covid-19 Practice Management Guide for fitness profile guidance.

1. Utilize the National Institutes of Health definitions for categorizing disease severity. https://www.covid19treatmentguidelines.nih.gov/overview/clinical-spectrum/
    - *Asymptomatic Infection:* Individuals who test positive for SARS-CoV-2 using a virologic test (i.e., a nucleic acid amplification test or an antigen test) but who have no symptoms that are consistent with COVID-19.
    - *Mild Illness:* Individuals who have any of the various signs and symptoms of COVID-19 (e.g., fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, loss of taste and smell) but who do not have shortness of breath, dyspnea, or abnormal chest imaging.
    - *Moderate Illness:* Individuals who show evidence of lower respiratory disease during clinical assessment or imaging and who have saturation of oxygen (SpO_2) ≥94% on room air at sea level.
    - *Severe Illness:* Individuals who have SpO_2 <94% on room air at sea level, a ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO_2/FiO_2) <300 mm Hg, respiratory frequency >30 breaths/min, or lung infiltrates >50%.
    - *Critical Illness:* Individuals who have respiratory failure, septic shock, and/or multiple organ dysfunction.

2. IAW CDC return-to-work guidance. https://www.cdc.gov/coronavirus/2019-ncov/index.html

3. Recommend review for other non-respiratory COVID-19 symptoms of aeromedical significance, such as anosmia, fatigue, anorexia, headaches, weakness and myalgia. Further evaluation as clinically indicated.

4. Exertional pulse oximetry is recommended to evaluate for persistent pulmonary dysfunction following resolution of SARS-CoV-2 infection. Multiple exertional tests are utilized in community practice to monitor exercise capacity (e.g., 1-min sit-to-stand test, 6-minute walk test, 40-step test, etc.) in chronic lung disease. These tests are now being utilized to assess for the presence of pulmonary dysfunction in individuals with SARS-CoV-2 infection even if clinical symptoms are absent. Abnormal exertional pulse oximetry (i.e. fall of 3% of more in pulse oximetry reading on exercise) should result in further evaluation to exclude underlying pulmonary dysfunction that may be disqualifying. (See comments under Section 6 and 8) https://www.cebm.net/covid-19/what-is-the-efficacy-and-safety-of-rapid-exercise-tests-for-exertional-desaturation-in-covid-19/

5. ECG is indicated to screen for cardiac abnormalities, which have been documented clinically in up to 20% of all cases and objectively (via cardiac MRI) in up to 80% of symptomatic COVID-19 cases. ECG should be considered for any history of palpitations or resting tachycardia. Abnormal ECG should prompt further evaluation with troponin and echocardiogram or cardiac MRI. Additional work-up may be warranted for specific abnormalities identified on ECG. ECGs and any other cardiac studies should be forwarded to the Aeromedical Consultation Service ECG Library for review and image storage per AFI 48-123. See "ECG Findings Disposition" at https://kx.health.mil/kj/kx5/AeromedicalConsultationSvc/Pages/home.aspx

6. Spirometry testing is recommended to evaluate for pulmonary dysfunction (i.e., obstruction or restriction), which has been noted to persist even after cardiopulmonary symptoms (dyspnea, cough, exercise intolerance, chest pain, etc.) resolve following SARS-CoV-2 infection. Abnormal spirometry should prompt continued DNIF and further evaluation with full PFTs to include lung volumes and DLCO. (See comments under Section 8.)

7. SARS-CoV-2 infection is associated with direct and indirect cardiotoxicity. Transthoracic echocardiogram (TTE) and/or cardiac MRI are used to evaluate the degree of cardiac involvement in symptomatic or hospitalized individuals and to further evaluate individuals with an abnormal ECG and/or troponin elevation.

8. Pulmonary dysfunction has been documented beyond resolution of COVID-19 symptoms. Individuals who were hospitalized are at higher risk for more significant lung damage, predisposing to hypoxia at altitude. Restriction and/or low DLCO on PFTs may indicate the presence of parenchymal lung damage (pulmonary fibrosis, ground glass opacities, etc.). Persistent pulmonary abnormalities may be disqualifying IAW MSD, 13 MAY 2020, G28 and warrant further evaluation (e.g., imaging, pulmonology consultation).

9. Some significant complications of COVID-19 such as myocarditis (including mRNA vaccine-induced), deep venous thromboembolism, stroke, and myocardial infarction may be independently disqualifying and require aeromedical waiver.

10. Many neurologic symptoms have been reported with acute SARS-CoV-2 infection including gustatory and olfactory dysfunction, encephalopathy, thrombotic and hemorrhagic cerebral infarction, Guillain-Barre syndrome, myopathy and peripheral neuropathy. In all symptomatic aircrew, cognitive function screening (Montreal Cognitive Assessment or equivalent tool), and a neurologic examination should be done. Any abnormal or concerning findings should prompt specialty consultation. Cranial MRI and formal neuropsychological testing is recommended in severe cases.

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