



# Dear Colleague

## COVID-19 Updates

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Red Cross bedside nurse, 1919. Image courtesy of [Library of Congress](#).

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## Updated Guidance

- [COVID-19 Provider FAQ](#) (November 11)
- [Pulse Oximeter Distribution Guidance](#) (November 16)
- [Health Alert #38: COVID-19 Diagnostic Testing and Screening Recommendations for People Who Live or Work in New York City](#) (October 14)
- [Holiday Guidance](#) (November 9)
- [Travel Guidance](#) (November 13)
- Next [Webinar for Providers](#): Friday, December 18, at 1 p.m.
- NYC Health Department [COVID-19](#) web pages
  - [Information for Providers](#)
  - [Resources for Health Care Facilities](#)
  - [COVID-19 Data](#)
  - [Telehealth Tips](#)

## **Long-Term Sequelae of COVID-19**

A substantial subset of patients who recover from mild, moderate or severe COVID-19 go on to develop persistent symptoms. These “long-haulers” have passed the acute stage of infection but continue to suffer from a variety of post-infection sequelae ([Rubin 2020](#)). Symptoms may be subjective, anatomically diverse, unpredictable or difficult to diagnose, but should be taken seriously and treated appropriately. Clinicians and patients should be aware that it may take weeks or even months to return to one’s pre-infection baseline, even after experiencing mild COVID-19 ([Garrigues 2020](#)). Among non-hospitalized patients, lingering symptoms are associated with older age, obesity, having a psychiatric diagnosis, or having three or more chronic medical conditions; however, people without chronic medical conditions, including younger adults, also report not having returned to their usual state of health ([Tenforde 2020](#)).

This newsletter discusses some of the more [common persistent symptoms](#) among COVID-19 survivors and presents effective strategies for treatment and management in primary care settings ([Greenhalgh 2020](#)). Several New York City (NYC) hospitals have established specialized [post-COVID-19 care clinics](#) to provide follow-up care to patients with lingering health effects from COVID-19. This includes a new [NYC Health + Hospitals COVID-19 Center of Excellence](#) in the Bronx that focuses on post-COVID-19 care and is available to all New Yorkers, regardless of immigration status or ability to pay. Post-COVID-19 care clinics bring together multidisciplinary teams to provide a comprehensive treatment approach.

### **General Considerations for Providers of COVID-19 “Long-Haulers”**

- Understand that physiologic complaints of COVID-19 long-haulers are real, not “merely” psychological.
- Rule out other possible etiologies of symptoms, such as flu, asthma exacerbation, etc.
- Continue to manage the patient’s chronic comorbidities.
- Coordinate care with specialists when appropriate. Various [clinics in NYC](#) have experience providing comprehensive post-COVID-19 care.
- Inform COVID-19 patients that prolonged symptoms are common and that it may take weeks or months for lingering symptoms to dissipate.
- Let patients know that, unless they are immunocompromised, they are unlikely to be contagious to others more than [10 days](#) after symptom onset, even if their symptoms persist.
- Emphasize the importance of well-being, social support, mindfulness and self-care.

### **Myalgic Encephalomyelitis / Chronic Fatigue Syndrome**

Patients have described symptoms of exhaustion, post-exertional malaise, lethargy and difficulties with memory and concentration lasting for weeks following COVID-19 illness ([Townsend 2020](#); [Garrigues 2020](#)). Even people who have recovered from mild COVID-19 report persistent “brain fog” ([Kingstone](#)

[2020](#)). These symptoms are typical of [myalgic encephalomyelitis / chronic fatigue syndrome](#) (ME/CFS) that has been described in patients who survived infections of other coronaviruses such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) ([Lee 2019](#); [Hickie 2006](#); [Perrin 2020](#)). ME/CFS is a disease with no specific laboratory-based biomarker ([Bested 2015](#)). Diagnosis depends on meeting specific [clinical criteria](#) and excluding other potential causes.

### **Clinical Management**

The Food and Drug Administration has not approved drugs to treat ME/CFS.

- Focus care on alleviating symptoms, beginning with the most bothersome.
- Consider referral to rehabilitation physicians or specialists in ME/CFS.
- Rule out alternate causes. Consider referral to a neurologist or other appropriate specialist to rule out previously undiagnosed chronic disease or autoimmune neurologic disorders.

### **Sleep Disorders**

Sleep medicine specialists have reported a rise in sleep disorders associated with COVID-19, including hypersomnia, insomnia and misuse of sleep medication ([Hurley 2020](#)). These may be related to anxiety related to one's finances or long-term health, or to depression caused by social isolation, reduced exposure to sunlight while spending more time indoors, and disruptions to normal daily routines ([Sher 2020](#); [Morin 2020](#)).

### **Clinical Management**

- Screen for and treat [anxiety and depression](#).
- Counsel patients to practice [good sleep hygiene](#):
  - Avoid lying down or taking naps during daytime hours.
  - Establish a consistent nighttime routine.
  - Avoid caffeine and alcohol before bedtime.
  - Remove smartphones, televisions, computers and other electronic devices from the bedroom.

### **Cardiopulmonary Symptoms**

Persistent dyspnea, cough and chest pain may be related to the effect of COVID-19 on the lungs or cardiovascular system.

### **Related to Lung Disease**

In a study of 143 patients who were hospitalized for COVID-19 infection and subsequently discharged, 43% reported difficult or labored breathing 60 days after their first symptoms of COVID-19 ([Carfi 2020](#)). A U.S. survey of non-hospitalized patients with mild COVID-19 found that 29% of those who

experienced shortness of breath at time of testing continued to report dyspnea at the time of interview, a median of 16 days later, and 43% reported persistent cough ([Tenforde 2020](#)).

The exact cause of prolonged cough and labored breathing may remain elusive. COVID-19 infection does cause persistent fibrotic interstitial lung disease in some patients, particularly in patients who are older or have prior comorbidities or a history of smoking ([Salehi 2020](#)).

### **Related to Heart Disease**

Persistent symptoms may originate from damage to the heart, rather than the lungs. One estimate is that 20% to 30% of patients hospitalized with COVID-19 will develop cardiac involvement ([Mitrani 2020](#)). Those with prior cardiovascular disease may be at greatest risk for longer-term cardiac problems ([Aghagoli 2020](#)). Even among otherwise asymptomatic patients, cardiac magnetic resonance imaging studies have demonstrated evidence of ongoing heart disease after COVID-19, including myocarditis and pericarditis ([Puntmann 2020](#)).

### **Related to Thromboembolic Disease**

COVID-19 is a hypercoagulable state associated with thrombotic events. In one study of 184 COVID-19 patients in intensive care who received thromboprophylaxis, 31% had incident thrombotic complications, most commonly pulmonary embolism ([Klok 2020](#)). Pulmonary embolism is associated with dyspnea and exercise limitation one year after the acute event ([Kahn 2017](#)). It is not yet known how long patients may remain hypercoagulable after COVID-19 illness.

### **Clinical Management**

- Evaluate the patient’s respiratory status at each office visit or telemedicine check-in.
- [Instruct patients](#) with access to a home pulse oximeter to measure and report their oxygen saturation.
- Inform patients about potentially concerning signs and symptoms, including worsening dyspnea and falling oxygen saturation levels.
- Discuss the patient’s access to assistance, such as from a household member or neighbor, if an emergency arises.
- Consider early referral to pulmonary rehabilitation to help patients recover to their pre-COVID-19 level of activity.

### **Joint and Muscle Pain**

A recent survey of more than 1,500 COVID-19 “long-haulers” found that muscle and body aches were a common persisting symptom, with participants reporting “sharp” or “burning” pain in the lower back, neck, joints and extremities ([Lambert 2020](#)). Myalgia and arthralgia are common long-term sequelae of

viral infections, likely caused by persisting low levels of inflammation or residual effects of a cytokine surge ([Schett 2020](#)).

### **Clinical Management**

- If necessary, use analgesics to reduce pain.

### **Mental Health and Well-Being**

COVID-19 long-haulers may experience neurological complications related to the direct effects of viral infection, physiologic compromise (e.g., hypoxia), and immune response, or to the psychological effects of experiencing a novel and potentially fatal illness and related social and economic disruptions ([Rogers 2020](#)). COVID-19 can produce neurological complications that may manifest as psychiatric symptoms, including confusion, stroke, encephalopathy and cognitive impairment ([Pero 2020](#)).

Psychological sequelae are also common among COVID-19 survivors and can compound effects of neurological sequelae on mental health. In one study, many patients reported depression (31%), anxiety (42%), and post-traumatic stress disorder (28%) one month after COVID-19 hospitalization ([Mazza 2020](#)). Psychological sequelae may particularly affect those with persistent physical symptoms of COVID-19 ([Tomasoni 2020](#)). Stress related to illness and the pandemic can worsen pre-existing symptoms of anxiety, depression and obsessive-compulsive disorder ([Haider 2020](#)). Similarly, stress related to deeply embedded structures of racism can undermine mental health ([Williams 2018](#)). Experiences of racism are therefore an additional risk factor for mental health impacts among people of color who have had COVID-19.

### **Clinical Management**

- Assess the psychopathology of COVID-19 survivors during follow-up visits and calls.
- Discuss with the patient how adaptive coping mechanisms and access to personal social support systems and appropriate mental health services can improve mental health.
- Help protect Asian, Black and Latino patients against racial trauma by acknowledging the reality of racism, supporting patients' positive cultural identities, and helping connect them to social support ([Liu 2020](#)).
- Consider forming a support group for patients recovering from COVID-19, or link them to online groups such as [Body Politic](#) or [Survivor Corps](#).
- Ask about suicidal thoughts and intent with patients who you suspect may be thinking about suicide; this creates an opportunity for the person to open up and permit help. Call 911 if you believe someone is at immediate risk of hurting themselves or others.
- Refer patients to trained mental health professionals when appropriate, and make sure they know about the remote 24/7 emotional support available through [NYC Well](#).

## Returning to Work

Recognize that long-term symptoms may prevent your patients from returning to work, and that those who return to work may require accommodations due to post-COVID-19 symptoms.

- Encourage patients who have lost their job or remain absent from work due to sequelae of COVID-19 to file for workers' compensation or disability, as appropriate.

## Racial and Social Inequities

In NYC, Latino/a and Black residents have [higher rates](#) of COVID-19 diagnoses, hospitalizations and deaths compared to people of other races and ethnicities. A similar pattern holds for health status following COVID-19. At the national level, when people who experienced COVID-19 symptoms were surveyed 14 to 21 days after they tested positive, fewer Black people (57%) reported returning to usual health than White (62%) or Latino/a (68%) people ([Tenforde 2020](#)).

The COVID-19 pandemic provides additional evidence that racism and other systems of oppression place people of color at increased risk of disease and severe disease, as seen with discrimination in housing, education and employment, and limited access to quality health care services and nutritious food ([Colen 2018](#)). Effects can be amplified for individuals facing intersecting oppressions, including people of color who are women or LGBTQ+ or have disabilities.

Individual clinical care may not resolve deep-seated injustices, but it should acknowledge and help address them. Health care providers and facilities must ensure that people experiencing racism and other forms of oppression receive high-quality, comprehensive care and have the space to discuss how social exclusion may be affecting their personal well-being.

### To Provide Equal Access to Care:

- Learn how to [address health inequities in care](#) and reduce [implicit bias](#) during patient interactions.
- Avoid blaming patients for their chronic conditions and understand how systemic racism can undermine health and access to health care.
- Acknowledge how histories of medical exploitation, substandard care and police brutality can cause greater medical mistrust, particularly among Black people ([CDC 2020](#); [Armstrong 2007](#); [Alang 2020](#)).
- Be aware of provider-patient power dynamics: use plain language, ask open-ended questions, and be mindful of tone and non-verbal communication.
- Inform patients about NYC's [low and no-cost insurance programs](#) and other social services such as [food assistance](#), [paid sick leave](#) and [resources for people with disabilities](#).

## Additional Resources

- Infectious Disease Society of America: [Post-Acute COVID-19 Syndrome](#)
- Columbia University Medical Center: [Post-COVID-19 Patient Rehabilitation Guide](#) (available in English and Spanish)
- NYC Health Department: [Post-COVID-19 care clinics](#)

### Stay Up to Date

- Sign up to receive [NYC Health Alerts](#)
- Join the [City Health Information network](#) to receive this newsletter by email
- Register for the monthly NYC Health Department [COVID-19 Provider Webinar](#)