It has now become clear that in addition to widely known symptoms with long COVID, such as difficulty concentrating or “brain fog,” that cardiac symptoms may occur as well. These include chest pain, shortness of breath, syncope and palpitations.

For some patients with COVID-19, cardiac symptoms may persist, lasting for months after their initial illness, according to consensus expert advice developed by the American College of Cardiology (ACC).

Published in the *Journal of the American College of Cardiology*, the ACC panel created guidance to help physicians treating patients with myocarditis following SARS-CoV-2 infection or COVID-19 mRNA vaccination, as well as long COVID with cardiac involvement.

“The document was written to provide practical guidance about how best to evaluate and manage these conditions,” said co-chair of the ACC writing committee Ty J. Gluckman, MD. He is a clinical cardiologist with the Providence Health System and medical director of the Center for Cardiovascular Analytics, Research, and Data Science at the Providence Heart Institute in Portland, Oregon.

“Our knowledge of this topic will definitely evolve over time, with the need for updates to provide more contemporary guidance,” said Dr. Gluckman. “There’s a lot more science to come.”

The expert panel covered some ongoing questions faced by physicians and other health professionals caring for patients with long COVID and cardiovascular symptoms.

**Take a systematic approach**
Patients with long COVID may experience other cardiac symptoms such as elevated blood pressure, tachycardia out of proportion to that expected for effort, and drops in oxygen saturation. But since long COVID is poorly understood and the underlying drivers may be diverse, a unifying explanation is often missing. There is also a lack of data to help guide diagnosis, treatment and prognosis, the ACC panel said.

That is why a systematic approach to assist in the evaluation and management of long COVID is needed, especially since the evidence base is likely to evolve over time. Patient-centered models of care are also needed to address long COVID. This requires coordination by multidisciplinary teams that include primary care physicians, subspecialists such as pulmonologists, cardiologists, and neurologists, along with social workers, psychologists, and physical therapists.

The ACC guidance “is meant to be a practical resource that provides direction to the entire care team,” said Dr. Gluckman. “We’ve attempted to develop a playbook that assists clinicians in how best to evaluate and manage cardiovascular symptoms related to long COVID, myocarditis and return to play.”

“It’s also really important to recognize that we are but one specialty,” he said. “Team-based care—working with primary care, other specialists, and other members of the care team—is central in helping individuals with long COVID get better.”

Learn more from this AMA Journal of Ethics® personal narrative, “The Importance of Listening in Treating Invisible Illness and Long-Haul COVID-19.”

**Divide heart symptoms into two groups**

Patients with long COVID heart symptoms should be split into two groups—patients with cardiovascular disease (CVD) and patients with a cardiovascular syndrome (CVS)—the latter of which is a heterogenous disorder that includes widely ranging cardiovascular symptoms not readily explained by testing, says the ACC guidance.

“As many as 10% to 30% may develop long COVID following SARS-CoV-2 infection. In these individuals, symptoms such as chest pain, shortness of breath, and palpitations draw attention to the cardiovascular system,” said Dr. Gluckman.

Where possible, evaluation and management strategies for those with long COVID and cardiovascular disease, such as cardiomyopathy, ischemic heart disease or arrhythmia, should follow existing guideline recommendations.
“For some individuals, however, evaluation may fail to identify a specific etiology for their reported symptoms,” said Dr. Gluckman. “Not surprisingly, this can be a source of tremendous frustration for patients and clinicians alike.”

Rather than focusing on a specific mechanism in these individuals—which may be a challenge to identify and address—the ACC guidance presents some of the most common cardiovascular symptoms observed with long COVID, mechanisms that may underlie them, and preferred approaches for evaluation and management.

“Unfortunately, there’s still so much that we don’t know right now about this condition,” Dr. Gluckman said.

### How to handle athletes’ return to play

For athletes with long COVID and ongoing cardiopulmonary symptoms—such as chest pain or tightness, dyspnea, palpitations, lightheadedness, or syncope—further evaluation should be performed before exercise can resume. Others who are asymptomatic don’t require additional cardiac testing, says the ACC guidance.

It is likely that physicians will increasingly see asymptomatic athletes who are returning for sports physicals after having had COVID-19. Regardless of the time that has passed since SARS-CoV-2 infection, athletes who remain asymptomatic, have not had cardiopulmonary symptoms and are exercising without limitation require no future cardiac testing. But for athletes who had COVID-19 and a history of cardiopulmonary symptoms, how much time has passed since symptoms resolved and their current clinical status should dictate the doctor’s approach.

Guidance provided from the ACC panel is based on expert consensus and reflects the state of knowledge as of early this year. The recommendations will likely change over time as evidence and understanding evolve.

Learn more from this JAMA® article, “The COVID Heart—One Year After SARS-CoV-2 Infection, Patients Have an Array of Increased Cardiovascular Risks.”

Visit the AMA COVID-19 resource center for clinical information, guides and resources, and updates on advocacy and medical ethics.