

Position Statement in the Age of COVID-19

Real Time Information to Support Policy Decisions

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Post-ICU Syndrome: The Coming Wave That Needs Attention Now

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The battle is far from over for many discharged COVID-19 ICU survivors

Each evening, television newscasts feature uplifting human interest stories of victory over the virus with the discharge of a patient wheeled down a hallway to greet loved ones. Dedicated caregivers clap to celebrate the challenging cases that triumphed over COVID-19. As joyful as each discharge is, weeks or months later, [many survivors will say](#) their battle was far from over.

A likely postsurvival crisis: Post-intensive care syndrome (PICS)

PICS, a nonspecific syndrome that results from physical, mental, and emotional stresses associated with critical illness and treatment in intensive care units (ICUs), isn't new. It was first [recognized as a distinct medical entity](#) over the past decade, and PICS awareness remains fragmentary.

Because of the long ICU stays and mechanical ventilation that some patients with COVID-19 experience, PICS is likely to become much more prevalent. Cardinal features include neuromuscular weakness from immobility, cognitive impairment from sedation, and anxiety, depression, post-traumatic stress syndrome (PTSD), and, as we are learning, additional sequelae for COVID-19 survivors. Symptoms can manifest or persist weeks or months after patient discharge.

The risk of doing nothing

A poll of 100 ECRI health system members during a webinar conducted May 1, 2020, found that about two-thirds of respondents reported having no PICS prevention or ICU follow-up strategies in place to screen for PICS in patients with COVID-19.

Data on the fallout of PICS are grim and affect a large proportion of patients with COVID-19, as experts at [Johns Hopkins University Medical Center](#) point out. High PICS incidence is expected among patients with COVID-19 because their ICU experience has exposed them to very high stress levels from the necessary isolation from relatives and drastic medical interventions required. The strain imposed by high patient volumes, additional safety measures, equipment and staff shortages, and the nature of COVID-19 also have disrupted PICS prevention strategies (e.g., [ABCDE bundle in critical care](#)) during the pandemic.

If nothing is done to screen for and treat PICS in discharged patients with COVID-19, the risk is another wave of serious morbidity and mortality. [Stam et al.](#) noted in the April 15, 2020, *Journal of Rehabilitative Medicine*, “The notion that [COVID-19] patients surviving intensive care and mechanical ventilation for several weeks can be discharged home without further medical attention is a dangerous illusion.”

Stam et al. noted that data on PICS show about one-third of affected patients never return to work. Another third cannot perform the job they had before their ICU stay or any job with equivalent responsibility and compensation. A quarter or more of patients with PICS experience a major loss of independence, and their dependence necessitates support for activities of daily living a year after ICU admission. Patients experiencing PICS also often experience decreased exercise capacity and much lower quality of life for months to years after ICU discharge. The effects are also significant on their loved ones and caregivers, who often experience psychological and social morbidity on par to that of patients, in what clinicians refer to as “familial” PICS.

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COVID PICS screening and follow-up may challenge rehab capacity

Screening patients for PICS periodically after ICU discharge is critical because the syndrome is not always immediately apparent and can emerge weeks or months later. Once the condition is diagnosed, treatment usually requires a multidisciplinary approach involving medical, physical rehabilitation, and mental health clinicians. Thus, increased diagnosis and treatment of COVID-related PICS may create a capacity challenge for rehabilitation facilities in regions with many COVID-19 ICU survivors, such as those in New York and New Jersey. In the same way that ICUs in COVID-19 hotspots were overwhelmed, so might rehabilitation facilities and mental health service providers be overwhelmed in coming months.

Scant evidence on what works best; ripe time for COVID PICS follow-up and research

Although this pandemic is too current to provide much published data on PICS treatment for discharged COVID-19 ICU patients, data available on other ICU populations that developed PICS may provide some insight.

ECRI's evidence assessment, [*Screening and Treatment for Post-intensive Care Syndrome after Discharge of Patients with COVID-19*](#), found that physical therapy and ICU diaries (such as the kind used at Johns Hopkins) improved patient quality of life after ICU discharge. ICU diaries also reduced postdischarge anxiety and depression risks; though in the current pandemic, ICU clinicians may have little to no time to create patient diaries. However, as peak patient loads decline, ICU staff may have the opportunity to consider ICU diaries for patients with COVID-19.

Data we assessed on the effectiveness of postdischarge physical rehabilitation and specialized post-ICU follow-up services, such as counseling, were inconsistent across studies, so conclusions were not possible about which programs or strategies work best. More research is critically needed because experts expect COVID-19 to persist for two years or longer.

How to proceed in the meantime?

The time is now to screen for PICS in survivors of COVID-19 and engage them in real-world research studies because of the many discharged COVID-19 ICU patients who need close follow-up. Many evidence gaps exist about the most effective PICS treatment strategies, but these gaps can be addressed by engaging with the broad range of COVID-19 ICU survivors who likely would participate in studies that could contribute to the evidence base to determine which treatments work best.

At the same time, rehabilitation facilities and mental health service providers should prepare for the large wave of support these patients will need in the coming months as they strive to return to activities of daily living.

Lastly, PICS prevention strategies should be revisited to adapt them to COVID-19 care where possible. We have witnessed media reports of ICU staff [*going to great lengths*](#) for the sake of patients' and relatives' welfare. These stories speak to the extraordinary dedication of ICU staff, which we expect they can marshal to effectively address barriers to implementing effective PICS prevention strategies.

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