

Patients with chronic illnesses from WTC exposures more likely to suffer long COVID

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A study of 1,280 patients treated and monitored at the Stony Brook World Trade Center Health and Wellness Program who also contracted COVID-19 reveals that the responders who have suffered from chronic

conditions from WTC exposures and the experience of the 911 tragedy appear to have more infection severity and long-term sequelae than responders who do not have chronic diseases resulting from WTC exposures. The findings are published this month in the *International Journal of Environmental Research and Public Health*.

Led by Benjamin Luft, MD, Director of the Stony Brook WTC Health and Wellness Program, and lead author, the study compared patients with WTC-related chronic disease and those without such conditions. All of the patients tested positive for COVID-19. The study participants had a wide range of symptoms or had no symptoms from the infection. They were categorized as having moderate (n=536), mild (511), or [severe symptoms](#) (104), or asymptomatic (129).

"Our findings point toward the need to monitor these chronically ill patients who contracted the infection even more closely," says Dr. Luft. They all suffer from various [chronic conditions](#) brought on by exposures at the World Trade Center site. This study alerts us to even more problems they may face in the future."

The researchers found that a number of existing chronic conditions appeared to predispose the patients to COVID-19-related severity, and/or were associated with long-term COVID sequelae. For example, they reported that among those with severe infections, 60 percent had previously diagnosed upper respiratory disease, 49 percent with [gastroesophageal reflux disease](#) (GERD), 35 percent have obstructive airway disease, and 20 percent have concomitant psychiatric disease.

Of note is that patients determined to have significant COVID-19 sequelae were measured by self-reported severity scales.

After an analysis of the data from each of the participant groups, the researchers determined that COVID-19 severity was independently

associated with age (older with more severity), Black race, obstructive airway disease, and with worse self-reported [depressive symptoms](#).

Dr. Luft and colleagues point out that why some individuals have more severe COVID-19 is unclear in any population and is not fully understood. The same can be said for this population, as scientists continue to explore the full reasons why some people develop severe infection and others do not.

The authors further write that in their patient cohort "COVID-19 disease severity was the strongest and the only factor significantly and consistently associated with the main post-acute COVID-19 sequelae outcome, as well as [symptom](#)-specific categories of post-acute COVID-19 sequelae . Taken together, the results contribute new evidence that both pre-existing respiratory and mental health conditions constitute [risk factors](#) for more severe COVID-19 symptoms, which in turn can put patients at a higher risk for long-term health sequela."

"Long COVID was very common especially in those individuals with chronic conditions with more severe infection symptoms. In fact, 57 percent of WTC responders with symptoms severe enough to cause hospitalization had persistent COVID symptoms," says co-author Sean Clouston, Ph.D., Associate Professor, Department of Family, Population and Preventive Medicine at the Renaissance School of Medicine, and Program in Public Health.

"With re-infections on the rise, it is incredibly important that we continue to monitor the impact of COVID on these responders and that we consider the possibility that these COVID infections have already left a lasting imprint on this group and much of the public's health," he emphasizes.

Dr. Luft says that this patient population will be monitored closely as

society moves further out from the COVID-19 pandemic—essentially to determine whether post-COVID-related health issues continue or increases more with this group compared to the program's other WTC responder [patients](#).

"We are doing further studies to see if the reason for persistent symptoms connected with the infection is due to continued inflammation in the brain and lungs," adds Dr. Luft, citing one example of their follow-up clinical research of this particular responder population.

More information: Elizabeth Lhuillier et al, The Impact of World Trade Center Related Medical Conditions on the Severity of COVID-19 Disease and Its Long-Term Sequelae, *International Journal of Environmental Research and Public Health* (2022). [DOI: 10.3390/ijerph19126963](#)

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