Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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https://doi.org/10.1016/j.annemergmed.2020.06.035

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). The authors have stated that no such relationships exist.

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COVID-19 Seroconversion in Emergency Professionals at an Urban Academic Emergency Department in New York City

To the Editor:

Although health care workers have been recognized as a high-risk group for contracting coronavirus disease 2019 (COVID-19),[1] there are no studies, to our knowledge, that report the rate of COVID-19 seroconversion in emergency professionals. Between February 1, 2020, and April 30, 2020, greater than 1,000 patients with a diagnosis of COVID-19 presented to our emergency department (ED) in Brooklyn, NY. Because these patients were arriving in overwhelming numbers, there was much uncertainty and concern regarding the risk of infection for emergency professionals. Here we report the rate of COVID-19 seroconversion for emergency professionals at our urban academic ED after this surge, and describe characteristics associated with seroconversion.

To better understand the effects of COVID-19 on our ED, we conducted a retrospective review of a quality improvement database consisting of SARS-CoV-2 immunoglobulin G antibody test results (Abbott Laboratories, Abbott Park, IL), as well as self-reported demographic, symptomatologic, and occupational characteristics for emergency professionals who were actively working in the adult ED from February through April 2020. There were 65 emergency professionals who were eligible to be entered into this quality improvement database. A total of 50 professionals (77%) volunteered to receive antibody testing and were included in our study (median age 35 years, interquartile range [IQR] 31 to 49 years; 42% women; median body mass index 25.1, IQR 23 to 28.3). This consisted of 22 of 28 attending physicians (79%), 14 of 14 emergency medicine residents (100%), and 14 of 23 physician assistants (61%).

We found the overall rate of seroconversion in our emergency professionals to be 46%. Rates for attending physicians, emergency medicine residents, and physician assistants were 64%, 36%, and 29%, respectively. Published rates of infection for health care workers are limited; however, a study from the Netherlands reported the prevalence of COVID-19 in all health care workers to be much lower, at 6%.[2] Recent antibody testing within New York City has estimated the community seroprevalence of COVID-19 to be lower than our findings, at 19.9%,[3] further highlighting emergency professionals as a high-risk group.

We also analyzed whether factors such as intubation, hours worked, and symptomatology were associated with COVID-19 seroconversion. Intubation of COVID-19 patients was performed by 65% of seropositive and 59% of seronegative professionals. These findings were not strongly associated with COVID-19 seroconversion (risk ratio [RR] 1.3; 95% confidence interval [CI] 0.66 to 2.38). The median hours worked for seropositive and seronegative professionals were 396.5 (IQR 348 to 482.5 hours) and 416 (IQR 360 to 498 hours), respectively. All seropositive professionals reported symptoms. Fifty-seven percent of seropositive professionals and 0% of seronegative professionals reported loss of taste and smell, which was strongly associated with seroconversion (RR 2.8; 95% CI 1.7 to 4.60). Fever was found to be associated with positive seroconversion (RR 2.0; 95% CI 1.1 to 3.47), as was dyspnea (RR 1.8; 95% CI 1.1 to 3.19). Sore throat was associated with negative seroconversion (RR 0.5; 95% CI 0.3 to 0.99).

Although our experience is limited to a single ED in New York City, these findings may provide insight into COVID-19 seroconversion among other emergency professionals. Further research is needed to determine the true risk of infection in this group.

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https://doi.org/10.1016/j.annemergmed.2020.06.038

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). The authors have stated that no such relationships exist.

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Infection Control Strategy Using a Hybrid Resuscitation Room System During the COVID-19 Pandemic in Tokyo, Japan

To the Editor:

For April 6 through May 25, 2020, the government of Japan issued a coronavirus disease 2019 (COVID-19) emergency declaration. Our institution, the largest advanced tertiary critical care facility in Tokyo, was requested by the governor of Tokyo to accept COVID-19 patients and to also strengthen our nosocomial infection control system.[1] Because plain chest computed tomography (CT) had been reported as beneficial in screening for COVID-19 infection,[2,3] we performed screening chest CT scans in a hybrid resuscitation room (RR) system. This consisted of a resuscitation room equipped with a CT scanner with air conditioning equivalent as regular operating rooms (Figure).[4,5] During initial assessments in the hybrid RR system, CT scans could be performed without transferring the patient to the CT scan suit.

In the emergency medical system in Japan, the fire department selects a hospital according to the severity of the patient's condition and requests acceptance. The hospital decides whether to accept the patient, depending on the availability of appropriate resources. As shown in the Figure (prepandemic), patients who did not meet the criteria for the hybrid RR system were taken to 1 of 2 conventional resuscitation rooms, making it possible to receive 3 ambulances simultaneously. However, during the declaration, all patients except for those with unwitnessed

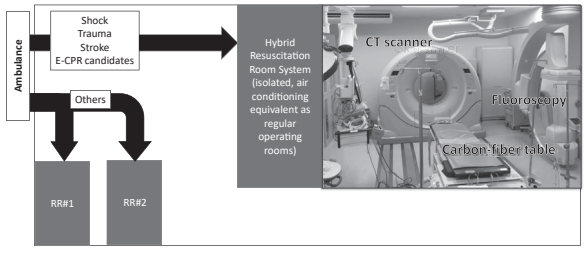

Figure. Flow after acceptance of a tertiary emergency request at our institution (prepandemic). *E-CPR*, Extracorporeal cardiopulmonary resuscitation; *RR*, resuscitation room.