



COVID-19

research update

May 20, 2020

Video instructions for wearing PPE

A [video demonstrating the proper way for healthcare workers to wear personal protective equipment](#) (NEJM, May 19) details the procedure for putting on and removing one type of PPE that has been recommended by the CDC for use in U.S. hospitals. When PPE is properly worn, removed, and discarded, it is effective in protecting both the person who wears it and those with whom that person comes into contact.

Public health measures to slow spread of COVID-19

[An overview of public health and social measures to slow or stop the spread of COVID-19](#) (WHO, May 18) proposes that public health interventions should be selected, calibrated and implemented based on the local intensity of COVID-19 transmission and should be safely adapted to ensure they are feasible, sustainable and acceptable in the local context. Potentially harmful consequences that may result from implementing the measures selected should be identified and managed, along with policies to maintain essential health services; protect access to food, water, and essential goods and services; protect incomes; support families and communities and ensure human rights for all.

ACE2 expression and differences in infection rate between children and adults

A [study examining the ACE2 levels in the nasal passages of individuals aged 4 to 60 years](#) (JAMA, May 20) found that lower ACE2 expression in children relative to adults may help explain why COVID-19 is less prevalent in children. ACE2 is protein that provides the entry point for the coronavirus to hook into and infect a wide range of human cells. The study involved New York City patients and found age-dependent ACE2 gene expression in the nasal epithelium, which is the first point of contact for SARS-CoV-2 in the human body. ACE2 gene expression was lowest in children under the age of 10 and increased with age. Analysis showed that the positive association between ACE2 gene expression and age was independent of sex.

Testing representative samples to estimate infection prevalence

A [serologic survey in Los Angeles that tested for SARS-CoV-2-specific antibodies](#)

(JAMA, May 18) using a lateral flow immunoassay test (Premier Biotech) estimates that the actual number of SARS-CoV-2 infections in Los Angeles County was much higher than the number of confirmed cases. This means that case fatality rates are likely much higher than infection fatality rates, and that contact tracing efforts to limit the spread of infection will face considerable challenges. As Ohio ramps up contact tracing efforts, serologic testing of representative samples could inform the allocation of contact tracing resources.