

For immediate release  
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**CMAJ COVID-10 headlines:**

- **Low-cost moist heat treatment of N95 masks eliminates SARS-CoV-2, bacteria**
- **UK clinical trial provides lessons for Canada on embedding trials in clinical care**

## **Low-cost moist heat treatment of N95 masks eliminates SARS-CoV-2, bacteria**

A new study shows that moist heat treatment of N95 masks eliminates severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and bacteria, which would allow reuse of these scarce resources. The study is published in *CMAJ (Canadian Medical Association Journal)*. 

The researchers found that moist heat treatment (60 min, 70°C, 50% relative humidity) did not damage the mask's structure or affect function.

"This low-cost reprocessing strategy can be applied 10 times without affecting the mask's filtration, breathing resistance, fit and comfort, and thus may help to alleviate the global shortage during the COVID-19 pandemic," says Dr. Gregory Borschel, Institute of Biomaterials and Biomedical Engineering and Division of Plastic and Reconstructive Surgery, The Hospital for Sick Children (SickKids), Toronto, Ontario.

Researchers tested 4 common models of N95 masks at various temperatures and humidity levels to determine whether the virus could be detected on the treated masks. They also analyzed fibre samples for structural integrity and assessed function of the masks after treatment with heat.

"Thermal disinfection of N95 masks may provide a low-cost, effective method for regions with fewer resources to extend their supply of these critical resources, thereby protecting vulnerable front-line workers from job-related risk of infection," says Dr. Borschel.

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## **UK clinical trial provides lessons for Canada on embedding trials in clinical care**

Canada needs to shift the way it funds and conducts some clinical trials to encourage real-world trials that can rapidly bring treatments to clinical practice, argues an editorial in *CMAJ (Canadian Medical Association Journal)*. 

The editorial highlights the RECOVERY (Randomised Evaluation of COVID-19 Therapy) trial in the United Kingdom, which in less than 4 months generated evidence that dexamethasone is an effective treatment for COVID-19 — information that is helping patients around the world. The study also showed that two other treatments, hydroxychloroquine and lopinavir–ritonavir were not effective.

“Those who manage and fund Canada’s health care systems need to view high-priority trials as an integral part of clinical care and provide adequate and stable infrastructure funding, thus avoiding the current time-consuming and expensive process of developing separate data-sharing agreements and contracts with many hospitals and organizations,” writes Dr. Andreas Laupacis, Editor-in-Chief, *CMAJ*, with coauthors Drs. Srinivas Murthy and Robert Fowler.

Although the Canadian Institutes of Health Research (CIHR) has provided funding for COVID-19 research and other topics, “researchers, and willing patients, are hamstrung by a lack of clinical research capacity and real-time pan-Canadian data integrated within routine care.”

The authors suggest creating a mechanism, perhaps through CIHR, to identify and prioritize high-quality, high-impact trials that would have national and international impact. Trials should be efficiently designed with simple criteria for patient enrolment, key outcomes and rapid access to routinely collected shared data from Canada’s provinces and territories.

“Canadian patients with COVID-19 are currently benefiting from the UK’s foresight. It will take a major cultural shift in Canada’s attitude toward clinical trials, political will, funding and infrastructure for clinical trials like RECOVERY to occur in Canada, but it can be done, and we must up our game,” the authors conclude.

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