



**Ontario
Health**

Reprocessing of N95 Respirators

Frequently Asked Questions

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When will we start to use reprocessed N95 respirators?

The decision to use reprocessed N95 respirators will be made by the Ministry of Health if the supply of N95 respirators reaches a severe shortage and in consultation with employers and labour unions.

At this time, hospitals are not to introduce the use of reprocessed N95 respirators for patient care or worker health and safety and are required to continue to follow applicable Directives from the Chief Medical of Health (CMOH) on the use of PPE, including Directive 5.

All organizations should consult with their local joint health and safety team and remain in compliance with the [Occupational Health and Safety Act](#) and [Directive 5](#), which states that Ontario public hospitals and long-term care homes, health workers, and other employees must engage in appropriate use, conservation, and stewardship of PPE including the creation of contingency plans for PPE shortages.

Why do we need to reprocess N95 respirators?

We hope we never need to use reprocessed N95 respirators. At the same time, reprocessing of N95s using safe and validated sterilization and disinfection methods is part of the efforts of many jurisdictions as they respond to the COVID-19 pandemic. With the continued challenges of the global supply chain to obtain personal protective equipment, responsible stewardship of PPE and being prepared for when supplies may be running low or are depleted is essential. Having the option of having reprocessed N95 respirators on hand for future use - in the event they are ever needed - is part of Ontario's planning for maintaining sufficient PPE supply.

How do we know it's safe and effective to reprocess N95 respirators?

On April 17, 2020, Health Canada issued a [notice](#) stating: "Reprocessing of devices intended for single use only is not a new concept. It has been done successfully with other devices used in Canada and similar technology can be applied to N95 respirators." Only approved sterilization machines should be used to reprocess N95 respirators. The list of Health Canada approved devices for use against COVID-19 can be found [here](#).

Ontario Health convened a panel of experts that conducted a detailed review of the latest and best-available evidence and developed recommendations for decontamination of PPE (including N95 respirators). This document, *Optimizing the Supply of Personal Protective Equipment During the COVID-19 Pandemic*, was updated on May 10, 2020 and can be found [here](#).

Are other provinces reprocessing N95 respirators?

Several other jurisdictions are also putting in place reprocessing plans for N95 respirators. For example, we know that [British Columbia](#), [Alberta](#), [Manitoba](#), Quebec, and Nova Scotia are all exploring, testing, or implementing these systems. Like Ontario, many of these jurisdictions have received machines from Health Canada for reprocessing N95 respirators.

What is the guidance on N95 respirators being returned to their original wearer?

According to Ontario Health's guidance, *Optimizing the Supply of Personal Protective Equipment During the COVID-19 Pandemic*, individual tracking and a universal pooled supply are both safe approaches. In either case, the guidance recommends that users continue to wear the same type of N95 respirator that they are fit-tested for and that an appropriate fit is further confirmed through a careful user-seal check at the point of care. In addition to this guidance, all hospitals are required to continue complying with CMOH Directives, including Directive 5 on health and safety and PPE.

What is happening in Ontario to facilitate these new reprocessing systems and processes?

To support jurisdictions to increase their N95 respirator reprocessing capacity, Health Canada (Public Health Agency of Canada) and the National Research Council Canada have donated or loaned 33 machines for use in Ontario. These machines have been allocated to hospitals across the province based on current capacity and geographic distribution.

Working with Ontario hospitals, Ontario Health has developed a provincial approach to reprocessing N95 respirators that optimizes and builds on existing capacity in the province. The plan for reprocessing consists of establishing a small number of hospital-based hubs with excess capacity to reprocess N95 respirators on behalf of other organizations that do not have this capacity or capability. Organizations will send their used N95 respirators to a designated hub for reprocessing. To support the allocation of PPE where it is needed most, PPE reprocessed by hubs on behalf of other organizations will be sent to the provincial pandemic supply for re-distribution.

What supports will be in place for organizations carrying out these reprocessing activities (either reprocessing N95 respirators or sending their used N95 respirators for reprocessing to another organization)?

Ontario Health will work with organizations to ensure they are meeting the highest standards for quality and safety and will offer continued guidance and support. Organizations who are reprocessing N95 respirators will have access to an information package that will include recommended procedures and minimum requirements. This package will supplement reprocessing machine manufacturer's guidelines. To support ongoing knowledge translation between organizations reprocessing N95 respirators, a community of practice (CoP) will be established focusing on staff training to maximize the number of respirators that can be reprocessed, logistics, reprocessing best practice, and lessons learned.

How can we safely collect and store used N95s for reprocessing?

Organizations should provide staff and physicians with education on their role in the appropriate collection and storage of used N95 respirators so that as many as possible can be reprocessed. N95 respirators that are visibly soiled or torn, or N95 respirators with ripped elastics cannot be reprocessed. If they are not visibly soiled or damaged, they should be collected and stored in disposal receptacles that are clearly labelled, dated, and separated from other types of PPE.

What do we do with the N95 respirators we have collected?

At this time, hospitals are not to introduce the use of reprocessed N95 respirators for patient care or worker health and safety and are required to continue to follow applicable Directives from the Chief Medical of Health (CMOH) on the use of PPE, including Directive 5.

The process of collecting used N95 respirators is new. Organizations should inspect bags currently stored and discard used N95 respirators that would be inappropriate for reprocessing and that may cause cross contamination (for example, those that are soiled or mixed with medical or regular waste). Organizations should provide staff and physicians with education on sorting at the point of doffing PPE and their role in sealing and transporting N95 respirator collection bins to the designated rooms so that they are ready for pick-up.

Ontario Health is also working to support logistics including transportation of the N95 respirators to reprocessing hubs. Specifically, we are working with supply chain management teams to arrange for reprocessed N95 respirators to be transported to the regional sites of provincial pandemic supply, and to work with existing regional networks and systems for transport of used N95 respirators from the spokes to the hub sites. For information on the process for having used PPE picked up from your organization for sending to a hub, please email us at ppereprocessing@ontariohealth.ca.

What happens to the N95s after they are reprocessed by a hub?

To support the allocation of PPE where it is needed most, PPE reprocessed by hubs will be labeled according to batch and date, sent to the provincial pandemic supply, and safely stored for use only if needed in the event of a severe shortage.

How many times will the N95 respirators be reprocessed?

Different machines have different manufacturer instructions for the number of times an N95 respirator can be reprocessed. For example, the Stryker instructions recommend that an N95 respirator can be safely reprocessed using their machine twice and Clean Flow states that an N95 respirator can be reprocessed 10 times using the Clean Works machinery. There is limited evidence on reprocessing a single N95 respirator first using one type of machine and later using another. At this time, respirators should continue to be reprocessed in the same type of machinery each time and follow manufacturer cycle number limits.

What steps will the hubs take to make sure it's clear that an N95 respirator has been reprocessed and what needs to happen prior to use?

Hubs will follow all required safety and quality procedures, including quality checks for the reprocessing machinery and visually inspecting all N95 respirators several times throughout the reprocessing stages. All reprocessed N95 respirators will be labeled as Quality control (QC) checked so that end users can see that it was reprocessed and checked.

As part of the recommended procedures for reprocessing N95 respirators, the N95 respirator will have a sticker stating that it has been reprocessed as well as a black tally mark on the right side of the elastic. In the event reprocessed N95 respirators are ever needed, prior to use, the respirator should not smell, feel, or look any different than a new N95 respirator. Prior to wearing the N95 respirator, the user should do a visual inspection and then don the N95 respirator as they would any N95 respirator, paying particular attention to the seal check.