Best practice is the use of new N95s. Decontamination approaches do not solve the PPE shortage crisis and should be considered only as an emergency practice with unknown efficacy and safety.

COVID N95 DECON & REUSE

TIME

CONSIDERATIONS FOR ROOM-TEMPERATURE DECONTAMINATION

CORONAVIRUS INACTIVATION

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- SARS-CoV-2 on the surface of an N95 FFR slowly becomes inactive over time
- **Storage at room temperature (22°C, 40-65% humidity) for 7 days is expected to significantly reduce risk of exposure to SARS-CoV-2 via a re-used N95 FFR[1,2,3**]**

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- Storage at temperatures below 22°C could significantly increase the appropriate waiting time[2]

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- There is an urgent need for more experimentation to provide clearer guidance
- **The time to reduce infection risk is expected to be extremely sensitive to initial viral load, N95 FFR material,[1,2] storage temperature[2], and humidity[4]**

N95 MASK INTEGRITY

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- Room temperature conditions are not expected to reduce mask integrity

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- Multiple don/doff cycles have been shown to reduce user fit[5]

KEY CONSIDERATIONS

N95 should be isolated and returned to original user

N95 user seal check should be performed before each reuse[6]

N95 damaged or soiled with cosmetics, blood, other bodily fluids should be discarded[6,7]

Lower temperatures could significantly increase the appropriate waiting time

Storage conditions should not deform or crush the N95

RISKS

Virus may survive substantially longer if the temperature is lower than 22°C

Virus may survive substantially longer at lower or higher humidity

Infection risk from extraordinarily large viral loads may not be sufficiently reduced after 7 days

This approach does NOT decontaminate against bacterial and mold co-infection risks

IMPLEMENTATION

+ Between uses, each N95 should be stored separately in a clean, breathable environment (such as in a new, clean container)[6]

? Method has not been validated in an FDA-approved process

CONCLUSION

IF THERE IS NO OTHER CHOICE, appropriately storing an N95 FFR between re-uses may adequately inactivate SARS-CoV-2. FDA specifies inactivation based on a 1000-fold reduction in viral activity . Based on very sparse data and this FDA specification, 7 days in clean, room temperature conditions may result in sufficient SARS-CoV-2 inactivation in most scenarios. More data are urgently needed to sharpen this assessment. This approach does NOT decontaminate against bacterial and mold co-infection risks.

SUPPORTING RESEARCH

** =not peer-reviewed

[1] Van Doremalen, et al 2020; [2] Chin, et al 2020; [3**] Fischer, et al 2020; [4] Lin & Marr 2020; [5] Bergman, et al 2012; [6] CDC, 2020; [7] OSHA, 2020; [8] FDA, 2020