Best practice is to use new N95s. Decontamination does not solve the PPE shortage crisis, and is an emergency practice to be
considered during the COVID-19 pandemic. Efficacy and safety of N95 decontamination has not been fully characterized.

**CORONAVIRUS INACTIVATION**

*Peer-reviewed data not available for SARS-CoV-2*

- ≥1.0 J/cm² of UV-C inactivates* viruses similar to SARS-CoV-2 on N95 FFRs1,2,3
- ≥1.0 J/cm² of UV-C yields 2-log reduction of viable *B. subtilis* spores on N95 FFRs4
- UV-C light may not reach inner N95 layers for all N95 models5
- Elastic straps require additional chemical disinfection1
- Shadows can block UV-C rays & can leave parts of N95 contaminated

* ≥ 3-log inactivation

**KEY CONSIDERATIONS**

Ensure accurate UV-C dose on all surfaces of N95

Measure dose at N95 surface with UV-C specific sensor

Return N95s to original users and ensure handling minimizes cross-contamination

Perform user seal check before each reuse

Be aware that data from tests on specific N95 models may not apply to other models

**IMPLEMENTATION**

- Reference documents from University of Nebraska Medical Center8 for implementation
- Validate each UV-C source and protocol with a UV-C sensor to ensure adequate dose for decontamination at the N95 surface

**CONCLUSION**

If implemented properly using sensors to ensure ≥1.0 J/cm² UV-C dose to the N95, this method likely inactivates SARS-CoV-2; however, this has not yet been confirmed directly with SARS-CoV-2. This method may protect against some bacterial co-infection risks but not all.

**N95 INTEGRITY**

- N95 keeps fit and filter performance after 10-20 cycles of 1.0–1.2 J/cm² UV-C 2**
- Each don/doff can reduce N95 fit; some models fit unacceptably after 5 don/doff cycles6
- Some damage to N95 seen at high UV-C doses (≥120 J/cm²)6
- Strap and facepiece damage seen on some N95 models after UV-C7**

**RISKS**

UV light is harmful to eyes and skin; proper training, engineering controls, and PPE are required before use

If UV-C source is underpowered, decontamination times may be infeasible

UV-C may not decontaminate N95 straps or eliminate risk of bacterial co-infection

Cosmetics and sunscreen on N95 may reduce decontamination efficacy

Non-uniform irradiance can affect dose, and subsequently, decontamination efficacy

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**SUPPORTING RESEARCH**


* = not peer-reviewed

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