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.

** UNSUITABLE METHODS **

Only UV-C light with a peak wavelength of 254 nm has demonstrated substantial germicidal effects on N95 FFRs\(^1\)\(^{**}\). UV-A (320-400 nm) is not germicidal. UV-B (280-320 nm) has lower germicidal efficiency and has not been validated for N95 FFR decontamination.\(^2\) Only use UV-C light sources with a peak wavelength of 254 nm.

- **Sunlight**
  - Sunlight reaching the Earth’s surface does not contain UV-C light;\(^3\) there is no evidence in the peer-reviewed literature to support sunlight-assisted decontamination of N95 FFRs.

- **Consumer UV Products**
  - Many consumer UV products do not emit UV-C with sufficient irradiance, and have **peak emission in the UV-A range** (e.g., nail polish curing lamps,\(^4\) tanning bed lamps,\(^5\) etc.), which is ineffective for decontamination. Other consumer products may additionally have uniformity or shadowing concerns.

- **< 200 nm UV Sources**
  - UV sources emitting < 240 nm light can produce ozone, which is hazardous to human health.\(^6\)\(^{**}\) Sufficient ventilation is necessary to reduce ozone concentration.\(^7\)

- **Measuring dose from lamp power**
  - UV-C irradiance should not be calculated from rated lamp power, as bulbs do not have 100% efficiency in converting electrical energy to optical power.\(^8\) Use a **UV-C specific sensor** to measure irradiance at the N95 surface.

- **Doses for air or surface decon**
  - Viral inactivation protocols designed for surfaces or air are insufficient/not effective for N95 decontamination.\(^9\) Use a substantially higher UV-C dose of 1.0 J/cm\(^2\) at the N95 surface.\(^1\)\(^{**}\)

- **Biosafety Cabinets**
  - Many UV-C sources used in research laboratories (e.g., biosafety cabinets) have unacceptable non-uniformity and low power;\(^10\)\(^{**}\) thorough characterization of the UV-C dose at the N95 surface is required for sufficient decontamination.

** SUPPORTING RESEARCH **


\(^{**}\) = not peer-reviewed

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