Reuse of N95 respirators endangers nurses, health care workers, and their patients

Donning (putting on) and doffing (taking off) the same N95 can:
- Increase the risk of exposure to nurses from contamination on the N95.
- Degrade the N95 and disrupt the fit, which undermines respiratory protection.

A new study confirms: N95s donned more times and worn for more hours were more likely to fail fit-tests — meaning these N95s did not seal to the wearers’ faces and failed to provide the minimum level of protection.

About the study: Researchers from South Korea examined fit-test results among a group of female infection control practitioners after reuse and extended use scenarios using OSHA’s standard protocols. During each donning, participants performed work activities, including sitting at a desk, taking phone calls, talking, and walking around wards.

### Results of Repeatedly Donning an N95

<table>
<thead>
<tr>
<th>For One-Hour Periods (Reuse)</th>
<th>After donning 2 times, 60% failed fit test</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>After donning 3 times, 70% failed fit test</td>
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<td></td>
<td>After donning 4 times, 90% failed fit test</td>
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<tr>
<td>Three-Hour Periods (Extended Use)</td>
<td>After donning 1 time, 50% failed fit test</td>
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<tr>
<td></td>
<td>After donning 2 times, 70% failed fit test</td>
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What the study tells us: Extended use and reuse of N95s led to high rates of fit-test failure. N95s were designed for single use only!

Comprehensive workplace protections remain critical for nurse and patient safety from Covid-19, including:
- Screening every patient for Covid-19, including testing, symptoms, and recent exposure history
- Creating dedicated units for Covid-19 patients with no mixed assignments
- Ventilation, including isolating confirmed and suspected Covid-19 patients in airborne infection isolation rooms and improving ventilation in other areas to decrease recirculation of viral particles.
- Testing for all health care workers, at least weekly and after an exposure
- Safe staffing
- Personal protective equipment (PPE) for every encounter with a Covid-19 patient or patient who may have Covid-19:
  - Optimal PPE includes a powered air-purifying respirator, coveralls that are impervious to viral penetration and that incorporate head and shoe coverings, and medical grade gloves
  - Minimum PPE is a single-use N95 respirator, eye protection, isolation gown that is fluid impermeable or resistant, and medical-grade gloves.