

Respiratory protection without a program: What could possibly go wrong? (And how to make it right)

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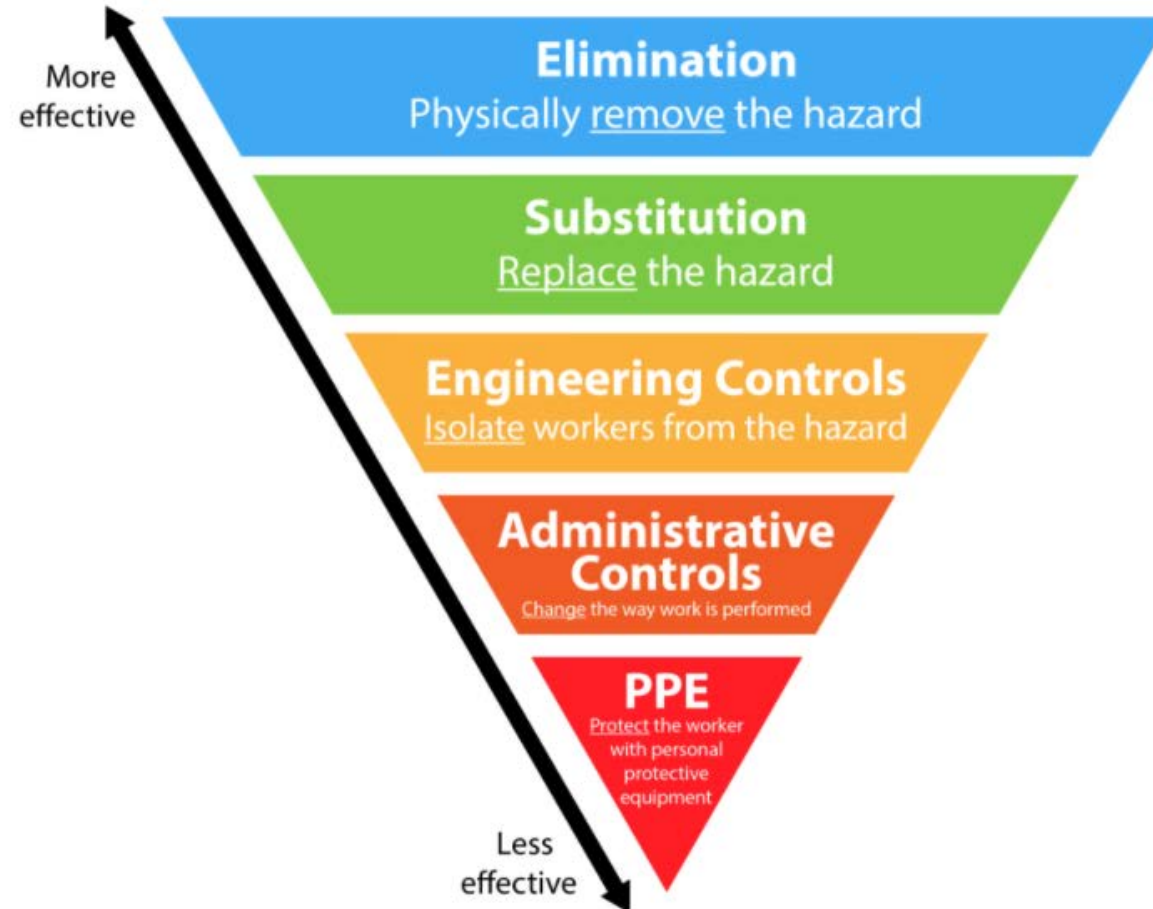
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Disclosures & disclaimers

- No competing interests
- The views expressed are my own and not necessarily those of my current or past employers

Basics/context: OSHA Act of 1970

Each employer...shall furnish to each employee...a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm.



Mandatory Respiratory Protection Programs (OSHA)

When workplace hazards cannot be controlled by more effective measures (e.g., engineering or administrative controls), employers must establish and maintain a respiratory protection program [RPP] compliant with the OSHA respiratory protection standard and provide suitable respirators.

**When a RPP is
not required:
OSHA
“Voluntary Use”
information for
employees**

- Respirators are an effective method of protection against designated hazards when properly selected and worn.
- Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers.
- “However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker...”

Who are the workers
without access to
Employer-sponsored
Respiratory Protection
Programs but are
exposed to serious
respiratory hazards?

- **Covered by OSHA but not subject to routine inspection/enforcement**
 - Small businesses
 - Small farms
 - Day laborers; many construction & maintenance workers
 - Lab workers, Health care providers
- **Workers not covered by OSHA**
 - Some covered by other agencies, e.g., FAA, Coast Guard, DoT, DoE, FRA, MSHA
 - “Independent contractors”; self-employed
 - Family farms
- **How many workers? Where do they work? Demographics? (Answer: We don’t know.)**

Non-mandatory
use:
Lessons from
Katrina Cleanup:
Public Use
Respirator Donning
Study (Cummings, et
al)

- Public health N95 respirator use recommended for mold cleanup or remediation
 - 68% NOLA public aware of recommendation 7 weeks post Katrina
 - 538 non cleanup professionals interviewed, and donning observed
 - 79% reported prior mask or respirator use
 - Only 24% donned properly
 - Nose clip not tightened (71%)
 - Head straps incorrectly placed (52%)
 - Donned upside down (22%)
 - **Proper donning associated with:**
 - **Prior use; prior fit test; having respirator; having N95 respirator**

Other key
lessons
relevant to
voluntary use
from the
(limited)
literature

- Design matters
 - Absent fit testing, 3 of 18 tested N95s provided promised/expected level of protection (Coffey, et al, 2004)
 - Consistent with prior investigation
 - Facial dimensions influence fit, more for some than other respirators (Zhuagn, et al, 2005)

Some user challenges to attaining adequate protection

Knowledge

- Is protection needed? Value of respirator?
- Matching respirator to the hazard: finding the right respirator

Skills

- Donning, doffing, maintenance & care

Attitudes

- Culture, politicization

Beliefs

- Safety issues: communication; task interference
- Infringement on personal choice

Other
concerns

Cost

Availability

Ease of use, comfort

Address worker protection needs: OHS research and worker protection agencies

- Clarify the distinction between “hazardous” (mandatory) and non-hazardous (voluntary)
 - **Assure RPPs are in place for workers exposed to significant respiratory hazards through communication, inspection, and enforcement**
 - Harmonize RPP standards and regulations across government agencies
- Develop and maintain useful data
 - How many workers are exposed to significant respiratory hazards?
 - Sectors, occupations, demographics
 - How many are in formal respiratory protection programs?
 - Attitudes & beliefs about respirators

Address
worker
protection
needs: OHS
research and
protection
agencies

- Work with manufacturers & trade associations and support research to improve protection characteristics for respirators without fit testing
- **Test and certify respirators for protection capabilities in the absence of fit testing**
- **Compare available respirators for level of protection absent fit testing; communicate findings widely**

Address worker protection needs (Government and NGOs)

- Provide useful information about respirators in settings where use is not mandatory
 - Issue guidance matching exposure/task/kind of protection needed
 - Target messaging & information dissemination
 - Improve access to training—on-line & in person
 - Explore fit test alternatives—on-line fit tools?
 - On-line selection tools—match risk to mask

Assist voluntary
users and those
who could benefit
from respiratory
protection but are
not currently
users

- Determine barriers to use through research: qualitative, surveillance, and community-based participatory research
- Anticipate & communicate future needs for respirator use by sector, occupation, demographic
 - Use improved data for targeted public health messaging
 - Engage and assist worker representatives, trade associations, and other key stakeholders in information dissemination