

# Cal/OSHA Webinar

## Use of Elastomeric Respirators in Health Care Settings



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- Eric Berg, Deputy Chief of Health, Cal/OSHA.
- Dr. Lisa Brosseau is recently retired from academia with research and policy expertise in respiratory protection focused on performance and use for infectious disease exposures and in healthcare settings. She consults with a range of organizations on respiratory protection and infectious aerosol exposures.
- Stella E. Hines, MD, MSPH, is Associate Professor at the University of Maryland School of Medicine in Baltimore. She is an Occupational Medicine physician and Pulmonologist. Dr. Hines studies reusable respirator use in healthcare to address N95 shortages and has published and presented on this topic at national and international meetings.
- Mark Catlin has almost 40 years experience in industrial hygiene and currently consults for healthcare and other organizations. Since 1992, he has been involved in protecting workers from exposures to infectious disease, including the use of reusable elastomeric respirators in the healthcare sector.

# Purpose of Webinar

- Protect health care and other workers from COVID-19
- Supply chain challenges for disposable respirators
- Elastomeric respirators can be used in place of disposable respirators:
  - FDA emergency use authorization March 28, 2020 for use in healthcare settings
  - Reusable
  - Economical
  - Superior protection

# Title 8 Section 5199 Aerosol Transmissible Diseases

1. Hospitals
2. Skilled nursing facilities
3. Clinics, medical offices, and other outpatient medical facilities
4. Facilities where aerosol generating procedures are performed
5. Home health care
6. Long term health care facilities and hospices
7. Medical outreach services
8. Paramedic and emergency medical services
9. Medical transport
10. Certain police services
11. Public health services
12. Correctional facilities
13. Homeless shelters
14. Certain drug treatment programs
15. Pathology laboratories, medical examiners' facilities, coroners' offices, mortuaries, others that work on cadavers
16. Laboratories that perform procedures on materials reasonably anticipated to contain aerosol transmissible pathogens
17. Maintenance, renovation, service, or repair operations involving air handling systems or equipment or building areas that may reasonably be anticipated to be contaminated with aerosol transmissible pathogens
18. Uncontrolled release of hazardous biological agents

# Title 8 Section 5199 Aerosol Transmissible Diseases

- COVID-19 is an **airborne infectious disease**
- Respiratory protection required for any and all occupational exposure to COVID-19
- Powered Air Purifying Respirators required for aerosol generating procedures



# Source Control & Elastomeric Respirators

- Exhalation valves on elastomeric respirators are expected to provide similar source control to a surgical mask or cloth face covering.
- For surgical masks and cloth face coverings, when a person exhales, their exhalation escapes through the sides of the mask/face covering because they do not seal to the face.
- Exhalation valves on elastomeric respirators work similarly. When a person exhales, the exhalation does not escape unimpeded. It strikes the valve which opens and allows the exhalation to escape perpendicular to the direction of the exhalation.
  - In many elastomerics, the exhalation valve leads to a secondary chamber, which contains and then redirects exhalation vertically downward.
- Some of the droplets and droplet nuclei adhere to surfaces of the valve and secondary chamber on impaction, which provides source control similar to masks/face coverings.
- If additional source control is needed, face shields with drapes or surgical masks over exhalation exits can be used.

# Source Control

Face shield with drape



Mask over exhalation valve of elastomeric respirator



Exhalation valve exit from secondary chamber



Mask over exhalation valve