SARS-CoV2 (Coronavirus)

Risk and Mitigation for Employers; Maintenance; Housekeeping and Contractors

Introduction

* The following presentation is based on established best management practices for mitigating the spread of infectious disease and is based on OSHA and CDC recommendations.

Introduction

* Coronavirus disease is a respiratory disease caused by exposure to SARS-CoV2.
* SARS-CoV2 started in China and has now spread to many countries throughout the world and in every state within the US.

Introduction

* Planning a risk mitigation strategy is essential BEFORE a possible worsening outbreak.
* The following is prepared to help the employer identify risk levels and determine the most effective means to reduce risk to employees and all who come into contact with them.

COVID-19

* Caused by SARS-CoV2 infection
* Symptoms
    * Range from mild to severe and sometimes fatal
        * Fever
        * Cough
        * Shortness of breath
    * According to CDC, symptoms can take from 2 days to two weeks to appear.

COVID-19 Spread

* Thought to be mainly spread from person to person.
    * People in close contact with each other (within 6 feet)
    * Exposure to droplets produced from coughing or sneezing

How to Cover

* Cough or sneeze into your elbow or upper arm.
* Or use a tissue then dispose of and wash your hands for at least 20 seconds.
* NEVER cough or sneeze into your hand.

COVID-19 Spread

* It is possible that SARS-CoV2 can be transmitted through touching contaminated surfaces
    * Not thought to be a primary pathway
* People can transmit the disease when they are most symptomatic
    * Coughing
    * Fever
    * Shortness of breath

COVID-19 in the Workplace

* Workplaces could experience
  * Absenteeism
  * Change in patterns of commerce
  * interrupted supply/delivery chains

Photo: CDC / Alissa Eckert & Dan Higgins
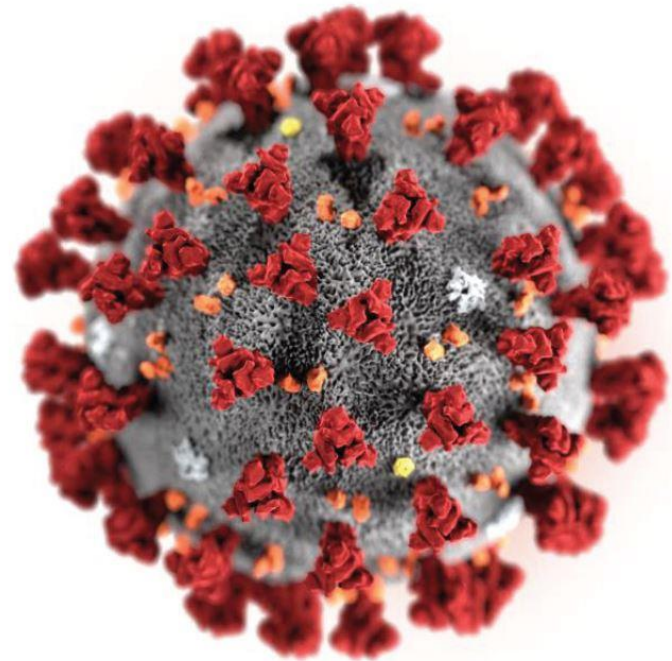
COVID-19: Worker Risk Classification

* During an outbreak worker risk can very from very high; high; medium and lower risk depending on:

  * Industry type

  * Need for contact within 6 feet

  * Extended contact with employees known or suspected of contact with SARS-CoV2

COVID-19: Worker Risk Classification

* The Occupational Risk Pyramid indicates the risk distribution to workers. Most workers will fall into the lower or medium risk levels.

Occupational Risk Pyramid for COVID-19

Very High

High

Medium

Lower Risk (Caution)
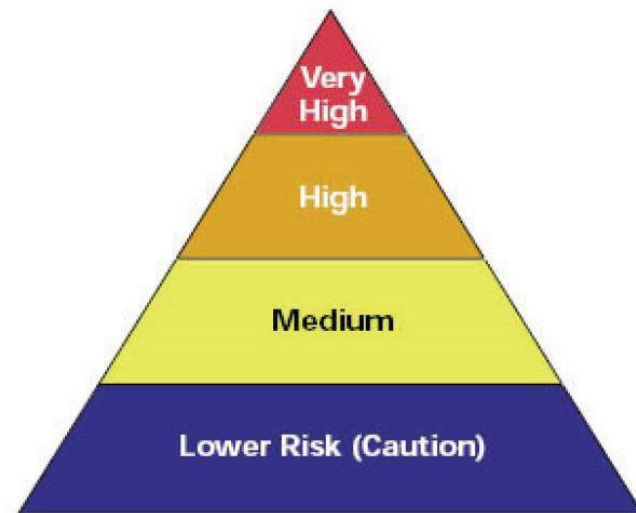
COVID-19: Worker Risk Classification

* Very High Risk Employees
  * Healthcare workers (e.g., doctors, nurses, dentists, paramedics, emergency medical technicians)
  * Healthcare or laboratory personnel collecting or handling specimens from known or suspected COVID-19 patients
  * Morgue workers performing autopsies, which generally involve aerosol-generating procedures, on the bodies of people who are known to have, or suspected of having, COVID-19 at the time of their death

COVID-19: Worker Risk Classification

* High Risk Employees
    * Healthcare delivery and support staff
    * Medical transport workers
    * Mortuary workers

COVID-19: Worker Risk Classification

* Medium Risk Employees
  * Those that require frequent and/or close contact with (i.e., within 6 feet of) people who may be infected with SARS-CoV-2, but who are not known or suspected COVID-19 patients.

COVID-19: Worker Risk Classification

* Lower Risk (Caution) Employees
  * Those that do not require contact with people known to be, or suspected of being, infected with SARS-CoV-2 nor frequent close contact with (i.e., within 6 feet of) the general public. Workers in this category have minimal occupational contact with the public and other coworkers.

COVID-19: Lower Risk Employees

* Engineering Controls
  * No additional engineering controls are necessary with the exception of those currently in use to reduce other recognized hazards
* Administrative Controls
  * Monitor public health communications and ensure that workers have access to that information. Frequently check the CDC COVID-19 website: www.cdc.gov/coronavirus/2019-ncov

COVID-19: Medium Risk Employees

* Engineering Controls
  * Install physical barriers, such as clear plastic sneeze guards, where feasible
    * Plastic guards placed between customer and cashier in grocery stores, for instance
* Administrative Controls
  * Consider offering face masks to ill employees and customers to contain respiratory secretions until they are able leave the workplace (i.e., for medical evaluation/care or to return home)

COVID-19: High/Highest Risk Employees

* Engineering Controls
    * Ensure appropriate air-handling systems are installed and maintained in healthcare facilities
    * Patients with known or suspected COVID-19 (i.e., person under investigation) should be placed in an airborne infection isolation room (AIIR), if available
    * Use isolation rooms when available for performing aerosol-generating procedures on patients with known or suspected COVID-19

COVID-19: High/Highest Risk Employees

* Administrative Controls
  * Consider offering face masks to ill employees and customers to contain respiratory secretions until they are able leave the workplace (i.e., for medical evaluation/care or to return home)
  * Develop and implement policies that reduce exposure, such as cohorting (i.e., grouping) COVID-19 patients when single rooms are not available

COVID-19: High/Highest Risk Employees

* Administrative Controls, cont'd
  * Post signs requesting patients and family members to immediately report symptoms of respiratory illness on arrival at the healthcare facility and use disposable face masks.
  * Consider offering enhanced medical monitoring of workers during COVID-19 outbreaks
  * Provide all workers with job-specific education and training on preventing transmission of COVID-19, including initial and routine/refresher training

COVID-19: High/Highest Risk Employees

* Administrative Controls, cont'd
  * Ensure that psychological and behavioral support is available to address employee stress

COVID-19: Steps to Reduce Risk

* Develop a risk mitigation plan for your company
  * What sources of SARS-Cov2 can workers be exposed?
    * General public, customers, coworkers
    * Non-occupational sources
    * Workers individual risk factors (i.e. age and underlying medical conditions)

COVID-19: Steps to Reduce Risk

* Develop a contingency plan to address:
    * Increased rates of employee absenteeism
    * Social distancing
    * Staggering work shifts
    * Working remotely
    * Cross-training employees
    * Interrupted supply chains/delivery

COVID-19: Steps to Reduce Risk

* Implement basic infection control/prevention measures
  * Promote frequent and thorough hand washing for at least 20 seconds.
    * WHO has an excellent handwashing chart available for use
  * Provide alcohol-based hand rubs (60% alcohol)
  * Encourage workers to stay home if sick
  * Encourage respiratory etiquette (cover coughs and sneezes)

COVID-19: Steps to Reduce Risk

* Implement basic infection control/prevention measures, cont'd
    * Provide tissues and trash receptacles
    * Flexible workshifts and telecommuting
    * Discourage workers from using other's offices, phones or tools
    * Routine cleaning/disinfection of touchable surfaces in the workplace

COVID-19: Steps to Reduce Risk

* "Products with EPA-approved emerging viral pathogens claims are expected to be effective against SARS-CoV-2 based on data for harder to kill viruses. Follow the manufacturer's instructions for use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE)."

  * www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

COVID-19: Steps to Reduce Risk

* Identify and isolate sick people immediately
  * This is critical!
    * Inform and encourage employees to self-monitor for signs/symptoms if they think they were exposed
    * Develop policies/procedures for employees to report if they are sick or showing signs of symptoms
    * Develop a policy/procedure to isolate an employee who shows symptoms.
      * Isolate them in a room with closed door until they can be removed from the workplace

COVID-19: Steps to Reduce Risk

* Implement workplace controls
  * Engineering controls
    * Install high-efficiency filters, if able
    * Increase amount of air changes
  * Administrative controls
    * Encourage sick workers to stay home
    * Replace face-to-face meetings with virtual meetings and telecommute if possible
    * Reduce total number of employees at the facility at one time by alternating shifts

COVID-19: Steps to Reduce Risk

* Implement workplace controls
  * Safe work practices
    * Promote good personal hygiene
      * Washing hands
      * Provide 60% alcohol-based hand rub
      * Provide tissues for use
      * No-touch trash receptacles

Coronavirus: Personal Protective Equipment

* "Employers are obligated to provide their workers with PPE needed to keep them safe while performing their jobs. The types of PPE required during a COVID-19 outbreak will be based on the risk of being infected with SARS-CoV-2 while working and job tasks that may lead to exposure."

Coronavirus: Personal Protective Equipment

* PPE must be…
  * Selected based on the hazard
  * Properly fitted and periodically tested, if applicable
  * Properly worn
  * Removed, cleaned and stored or disposed of properly

Respiratory Protection: N-95

Respiratory Protection: N-95

* Important!
    * When removing the N-95 NEVER touch the front of the respirator. Remove by holding the bands and pulling them over your head starting at the strap at the base of your neck dispose into a touchless waste container without touching the front of the respirator.

Face Shield

Respiratory Protection: Powered Air Purifying Respirators

PPE: Donning and Doffing

Proper Doffing of Gloves

* Start by pinching and holding the glove (with the other gloved hand) between the palm and wrist area

Proper Doffing of Gloves

* Peel the glove away from the wrist…

Proper Doffing of Gloves

* until it turns inside out covering the fingers. With the now half-gloved hand,
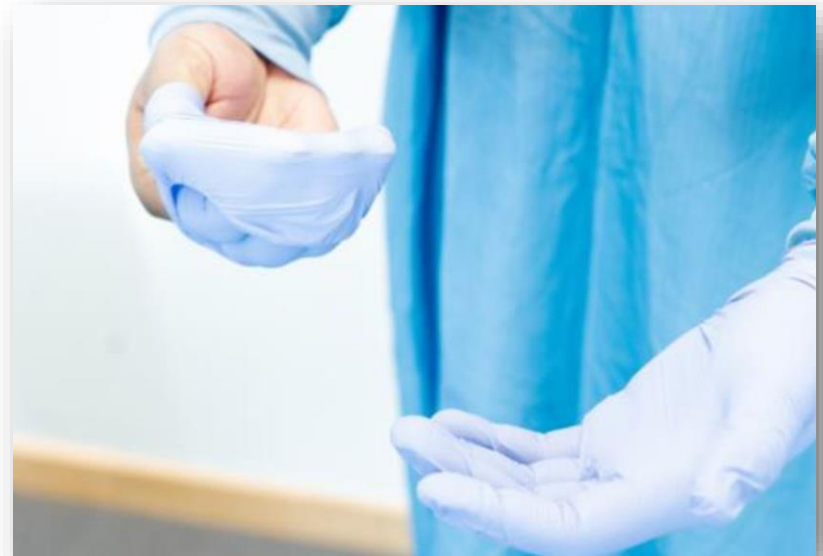
Proper Doffing of Gloves

* pinch and hold the fully gloved hand between the palm and wrist,

Proper Doffing of Gloves

* peel the glove away from the wrist…

Proper Doffing of Gloves

* until it turns inside out and covers the fingers. Now that both hands are half-gloved,

Proper Doffing of Gloves

* remove the glove from one hand completely by grabbing the inside part of the glove and peeling it away from the hand, and do the same for the remaining half-gloved hand using the non-gloved hand, while always grabbing the inside part of the glove.

Proper Doffing of Gloves

* Dispose of glove.

CDC Recommendations for Cleaning

* The following recommendations were sourced from:
  * www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

CDC Recommendations for Cleaning

* Definitions
  * *Community facilities* (e.g., schools, daycares centers, businesses) comprise most non-healthcare settings that are visited by the general public outside of a household.
  * *Cleaning* refers to the removal of dirt and impurities, including germs, from surfaces. Cleaning alone does not kill germs. But by removing the germs, it decreases their number and therefore any risk of spreading infection.

CDC Recommendations for Cleaning

* Definitions
  * *Disinfecting* works by using chemicals to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs. But killing germs remaining on a surface after cleaning further reduces any risk of spreading infection.

CDC Recommendations for Cleaning

CDC Recommendations for Cleaning

* At a school, daycare center, office, or other facility that <u>does not house people overnight</u>:
    * It is recommended to **close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection** to minimize potential for exposure to respiratory droplets. **Open outside doors and windows to increase air circulation in the area.** If possible, wait up to 24 hours before beginning cleaning and disinfection.

Air Change Rate Calculation

* Make sure you have the correctly sized HEPA AFD for the job.
  * Air Changes per Hour (ACH)
    * Recommended minimum ≥12 for new construction or demolition
    * Recommended minimum ≥6 for renovations on existing structures
      * Based on CDC recommendations
  * Capacity in CFM of machine
    * Anywhere from 300 CFM to 2000 CFM or more

  * Volume (V) = L x W x H of the entire work area
    * Consider adding volume of hidden area(s) that will be exposed during work
* Calculate
  * V x ACH/60 = CFM

CDC Recommendations for Cleaning

* At a school, daycare center, office, or other facility that <u>does not house people overnight</u>:
    * **Cleaning staff should clean and disinfect all areas (e.g., offices, bathrooms, and common areas) used by the ill persons**, focusing especially on frequently touched surfaces**.**

CDC Recommendations for Cleaning

* Examples of touchable surfaces:
    * Door handles
    * Stairway handrails
    * Sink fixtures and countertops
    * Toilet handles and seats

CDC Recommendations for Cleaning

* At a facility that <u>does house people overnight</u>:
  * Follow Interim Guidance for <u>US Institutions of Higher Education</u> on working with state and local health officials to isolate ill persons and provide temporary housing as needed.
  * It is recommended to **close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection** to minimize potential for exposure to respiratory droplets. **Open outside doors and windows to increase air circulation in the area.** If possible, wait up to 24 hours before beginning cleaning and disinfection.

CDC Recommendations for Cleaning

* At a facility that <u>does house people overnight</u>:
    * In areas where ill persons are being housed in isolation, follow <u>Interim Guidance for Environmental Cleaning and Disinfection for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019</u>. This includes **focusing on cleaning and disinfecting common areas where staff/others providing services may come into contact with ill persons, but reducing cleaning and disinfection of bedrooms/bathrooms used by ill persons to <u>as needed</u>.**

CDC Recommendations for Cleaning

* At a facility that <u>does house people overnight</u>:
    * In areas where ill persons have visited or used, continue routine cleaning and disinfection.

How to Clean and Disinfect

* If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.

* For disinfection, diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and most common EPA-registered household disinfectants should be effective.

  * Diluted household bleach solutions can be used if appropriate for the surface. Follow manufacturer's instructions for application and proper ventilation. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.

How to Clean and Disinfect

How to Clean and Disinfect

How to clean/ disinfect:

1. Put on mask and gloves. Do not touch your face further.

2. Prepare bleach solution/ disinfectant, according to manufacturers' instructions.

3. Open windows.

4. Mop floor with bleach solution/ disinfectant, from one end to the other.

5. Soak cloths in bleach solution/ disinfectant, and use to wipe all frequently touched areas and toilet surfaces.

6. Wash all bed linen with detergent in a washing machine.

7. If person is being tested for the Novel Coronavirus, do not use the bedding that he/ she has used, until he/ she is determined to be free of infection.

Contact NEA at 1800-2255632 for further instructions if the person is tested positive for Novel Coronavirus infection.

8. Repeat mopping, as before.

9. Put all used cloths/ rags and other waste into double-lined plastic/ trash bags.

10. Remove gloves and wash your hands with soap and water.

11. Remove mask and wash your hands with soap and water.

12. Put used gloves and mask into double-lined plastic/ trash bags.

13. Separate plastic/ trash bags generated from the clean-up from other household waste, and throw them away as regular waste, as soon as possible.

14. Shower and change clothes immediately.

15. Air/ ventilate your home.

How to Clean and Disinfect

How to Clean and Disinfect

* Prepare a bleach solution by mixing:
  * 5 tablespoons (1/3rd cup) bleach per gallon of water or
  * 4 teaspoons bleach per quart of water
  * Expires, remix daily

To disinfect surfaces:

1. Mix ½ cup Clorox® Disinfecting Bleach, w/1 gal. water
2. Pre-wash surface
3. Mop or wipe w/bleach solution
4. Let solution contact surface for at least 5 min
5. Rinse well and air dry

*Hard, nonporous surfaces

CLOROX

How to Clean and Disinfect

* For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces.

* After cleaning:

  * If the items can be laundered, launder items in accordance with the manufacturer's instructions using the warmest appropriate water setting for the items and then dry items completely.

How to Clean and Disinfect

* Otherwise, use products with the EPA-approved emerging viral pathogens claims that are suitable for porous surfaces.

How to Clean and Disinfect

* Linens, Clothing, and Other Items That Go in the Laundry
  * Do not shake dirty laundry; this minimize the possibility of dispersing virus through the air.
  * Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely. Dirty laundry that has been in contact with an ill person can be washed with other people's items.

How to Clean and Disinfect

* Linens, Clothing, and Other Items That Go in the Laundry
    * Clean and disinfect hampers or other carts for transporting laundry according to guidance above for hard or soft surfaces.

How to Clean and Disinfect

* Personal Protective Equipment (PPE) and Hand Hygiene:
    * Cleaning staff should wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash.
    * Gloves and gowns should be compatible with the disinfectant products being used.

How to Clean and Disinfect

* Personal Protective Equipment (PPE) and Hand Hygiene:
  * Additional PPE might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
  * Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area. Be sure to **clean hands** after removing gloves.

How to Wash Your Hands

* **Wet** your hands with clean, running water (warm or cold), turn off the tap, and apply soap.

* **Lather** your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.

* **Scrub** your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.

* **Rinse** your hands well under clean, running water.
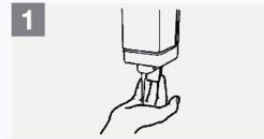
* **Dry** your hands using a clean towel or air dry them.

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

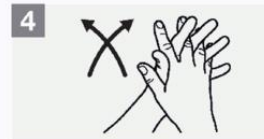**Duration of the entire procedure:** 40-60 seconds

0 Wet hands with water;

1 Apply enough soap to cover all hand surfaces;

2 Rub hands palm to palm;

3 Right palm over left dorsum with interlaced fingers and vice versa;

4 Palm to palm with fingers interlaced;

5 Backs of fingers to opposing palms with fingers interlocked;

6 Rotational rubbing of left thumb clasped in right palm and vice versa;
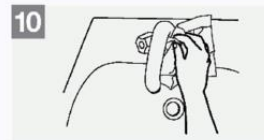
7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8 Rinse hands with water;

9 Dry hands thoroughly with a single use towel;

10 Use towel to turn off faucet;

11 Your hands are now safe.

May 2009

How to Clean and Disinfect

* Gloves should be removed after cleaning a room or area occupied by ill persons. <u>Clean hands</u> immediately after gloves are removed.

* Cleaning staff should immediately report breaches in PPE (e.g., tear in gloves) or any potential exposures to their supervisor.

How to Clean and Disinfect

* **Cleaning staff and others should <u>clean</u> hands often**, including immediately after removing gloves and after contact with an ill person, by washing hands with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains 60%-95% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water

How to Clean and Disinfect

* Follow normal preventive actions while at work and home, including cleaning hands and avoiding touching eyes, nose, or mouth with unwashed hands.
  * Additional key times to clean hands include:
    * After blowing one's nose, coughing, or sneezing
    * After using the restroom
    * Before eating or preparing food
    * After contact with animals or pets
    * Before and after providing routine care for another person who needs assistance (e.g., a child)

Coronavirus: Follow Existing OSHA Standards

* "While there is no specific OSHA standard covering SARS-CoV-2 exposure, some OSHA requirements may apply to preventing occupational exposure to SARS-CoV-2. Among the most relevant are:"
  * General Industry PPE Standard 1910 Subpart I
  * Respiratory Protection Standard 1910.134
  * Bloodborne Pathogen Standard 1910.1030

Coronavirus: Follow Existing OSHA Standards

* The General Duty Clause, Section 5(a)(1) of the Occupational Safety and Health (OSH) Act of 1970, 29 USC 654(a)(1), which requires employers to furnish to each worker "employment and a place of employment, which are free from recognized hazards that are causing or are likely to cause death or serious physical harm."

Closing

* About this presentation
  * The information contained herein was directly obtained from two primary sources:
    * OSHA publication OSHA3990
      * Provided for download
    * Centers for Disease Control
      * cdc.gov