



中国疾病预防控制中心  
CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION

# Occupational Health Protection in Environmental Clean-up and Disinfection --COVID-19 Prevention and Control

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# Role of Environmental cleaning and disinfection (1)

## □ *Route of Transmission*

- Transmission of the **SARS-Cov-2** happens mainly through respiratory droplets and close contact.
- **Aerosol transmission** is possible in a relatively closed environment with a long-time and high-concentration exposure to the aerosols containing the virus particles.
- The virus can be isolated in feces and urine, attention should be paid to feces or urine contaminated environment that may lead to aerosol or contact transmission.

□ *Disinfection*: the process is to kill and remove **pathogenic microorganisms** from the media.



## Role of Environmental cleaning and disinfection (2)

- Disinfection is an important means to **cut off** the transmission route
  - Preventive disinfection & disinfection of epidemic focus
  - Concurrent disinfection & terminal disinfection
  - Cleaning is also important
- Environmental cleaning and disinfection *aims at*:
  - **Environmental surface**—blocking contact transmission(e.g. droplet)
  - **Air**—blocking aerosol transmission
  - **Excrement, waste**



# Clean-up and disinfection in different places

## □ *Medical Institutions*

- Doctors, nurses, sanitation workers

## □ *Community, family*

- **Clean-up**: the public
- **Preventive disinfection**: the public, public interest group, governmental personnel
- **Disinfection of epidemic focus**: health professionals, staff of third-party professional organization

## □ *Shopping malls, supermarkets and other places*

- **Clean-up**: sanitation workers
- **Preventive disinfection**: sanitation workers, staff of third-party professional organization, health professionals
- **Disinfection of epidemic focus**: health professionals, staff of third-party professional organization



# Disinfection methods and disinfectants- disinfection of epidemic focus

## □ *Air*

- chlorine dioxide, hydrogen peroxide, peracetic acid or other disinfectants, aerosol spray, vacant space

## □ *Environmental surface*

- chlorine disinfectant or chlorine dioxide, constant spray or wipe disinfection

## □ *Fabric, tableware*

- chlorine disinfectant

## □ *Waste*

- is treated as medical waste
- The garbage and the ground of the temporary storage area are disinfected by spraying with chlorine disinfectant or chlorine dioxide





# PPEs used in the disinfection process- disinfection of epidemic focus

- Wear work clothes, disposable work caps, disposable gloves and long-sleeved thick rubber gloves, protective clothing, KN95 / N95 or above particulate protective masks or medical protective masks, goggles, protective face shields, work shoes, rubber boots
- If necessary, wear waterproof boot covers, waterproof aprons, or waterproof isolation gowns.
- When using non-powered air-purifying respirator with full-face mask, one should select a dust-and-toxicant filter box or canister according to the type of disinfectants.





# Disinfection methods and disinfectants-

## Preventive disinfection

### □ *Air*

- Ventilate

### □ *Flooring*

- Use a low concentration of chlorine disinfectant or chlorine dioxide, spray or wet mop to disinfect

### □ *High-frequency contact with surfaces*

- Use chlorine disinfectant, chlorine dioxide, quaternary ammonium disinfectant, medical alcohol, spray or wipe disinfect

### □ *Fabric*

- Chlorine disinfectant, chlorine dioxide, phenolic disinfectant, exposure to the sun outdoor, etc.





# PPEs-Preventive disinfection

- Wear work clothes, disposable work caps, disposable gloves or long-sleeved thick rubber gloves, general masks or KN95 / N95 masks, work shoes or rubber boots
- If necessary, wear goggles, waterproof boot covers, waterproof aprons, or waterproof isolation gowns.



# PPEs-Cleaning

- *PPEs should be used depending on the locations*
- Designated hospitals for COVID-19, suspected patient isolation places, etc. (Note: pay attention to protection against pathogens)
- Other general places: work clothes, long-sleeved thick rubber gloves, general masks. If necessary, disposable work caps, goggles, work shoes or rubber boots, waterproof boot covers





# PPEs-Choice

□ Pathogenic organisms and chemicals

□ No virus exposure risk:

- In general, cleaning or preventive disinfection is enough, just consider protection **against chemicals**: general mask, long-sleeved thick rubber gloves, work shoes/rubber boots and work clothes

□ With virus exposure risk:

- Protection against pathogenic organisms and chemicals
- **PPEs against virus**: work clothes, disposable work caps, disposable gloves, protective clothing, KN95 / N95 or above particulate protective masks or medical protective masks, goggles, protective face shields, work shoes
- During disinfection of epidemic focus, the concentration of chemicals the confined space may be high. It is necessary to use non-powered air-purifying respirator with full mask, to protect **against chemicals**.





# PPEs-Notes

## □ When taking off PPEs:

- Focus on safety during the removal of PPE
- Avoid contact with contaminated surfaces during the removal of PPE
- **Hand disinfection** should be carried out at every step in the process of removing protective equipment. After all PPEs are removed, wash hands and disinfect hands again.

## □ Other notes for masks and PPEs:

- KN95 / N95 or above particulate protective masks or medical protective masks, non-powered air-purifying respirator with full-face masks: **face-seal check**
- non-powered air-purifying respirator with full-face masks: **timely cleaning and disinfection**
- Disposable protective clothing, disposable masks and other disposable supplies **should not be reused**



# Thank you!

I participate in this Webinar as an individual expert and therefore be independent from any organization in my work.

