# University of Arkansas (UA) Environmental Health and Safety (EHS) Background Paper on Coronavirus Disease 2019 (COVID-19) Response Actions

## Purpose

To provide UA faculty and staff background information on COVID-19 to prepare for resuming on-campus activities

## Background

- Much of the information provided in this paper is summarized from information found on the Centers for Disease Control (CDC) COVID-19 website using this link https://www.cdc.gov/coronavirus/2019-nCoV/index.html
  - The CDC information has been supplemented in areas of specific interest
- Little is known about the specific virus, Severe Acute Respiratory Syndrome (SARS) Coronavirus 2 (SARs-CoV-2) responsible for COVID-19, but coronaviruses in general are known to affect both humans and animals and are often responsible for the common cold
  - The spread of COVID-19 is causing knowledge about SARs-CoV-2 to grow exponentially and is a reason to visit the CDC website often using this link https://www.cdc.gov/coronavirus/2019-nCoV/index.html

## Discussion

### ■ Modes of Transmission

- As indicated earlier, little is known specifically about SARs-CoV-2, but can be inferred from similar viruses and lessons currently being learned
- The virus is thought to spread mainly from person-to-person with symptoms typically developing within 14 days after exposure
  - Spread is most likely between people who are in close contact with one another through respiratory droplets produced when an infected person coughs or sneezes
  - Close contact typically means kissing, hugging, sharing eating or drinking utensils, touching, and being closer than 6 feet
- Respiratory droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs when in close contact

- People are thought to be most contagious when they are most symptomatic (the sickest), however, the virus has been detected in individuals' days before any symptoms appear, but this is not thought to be a significant component to the spread
- Coronaviruses in general are known to persist on inanimate surfaces (e.g., metal, glass, plastic, wood) for up to 9 days (latest studies saying up to 3 days), but are effectively inactivated by surface disinfectants
    - While the virus may be present on surfaces and it is possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose or possibly eyes, this is not thought to be the main way the virus spreads
- Heating, Ventilation, and Air Conditioning (HVAC) systems are not believed to be a significant component to the spread of COVID-19, but they cannot be ruled out completely
    - Some expelled respiratory droplets can be very small (e.g., < 1 micron) and take hours to days to settle and may spread through an HVAC system especially one where air is recycled
- Additional information on transmission can be found on the CDC website using this link https://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html

■ **Signs and Symptoms**

- People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms or combinations of symptoms may have COVID-19:
    - Cough
    - Shortness of breath or difficulty breathing

    *Or at least two of these symptoms:*

    - Fever
    - Chills
    - Repeated shaking with chills
    - Muscle pain
    - Headache
    - Sore throat
    - New loss of taste or smell
- Additional information on symptoms can be found on the CDC website using this link https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/index.html
- It is crucial anyone exhibiting symptoms or feeling "off" should not come in to work

- **Cleaning and Disinfection**
  - Often the terms are used interchangeably, but for COVID-19 response, they are distinct, and both are necessary
    - Cleaning (warm water and soap) is needed to remove surface grime, grit or dirt before disinfection takes place
    - Disinfection may not be effective on highly soiled areas
    - A key component in effective disinfection is following the manufacturer recommendations (e.g., concentration, application method and contact time)
  - Clean and disinfect high-touch surfaces at least daily (e.g. tables, pens/pencils, AV controls, computer touch screens, instrument on/off switches, equipment lids/doors, hard-backed chairs, doorknobs, light switches, remotes, cell phones, handles, desks, toilets, sinks, benchtops/counters)
    - Areas with high-volume turnover of people and difficult to clean (e.g., gyms, weight rooms, food service) will require increased cleaning/disinfecting and in some cases after each use/visit which often falls to the patrons to accomplish so cleaning/disinfection supplies (e.g., disinfecting wipes) need to be made available in these areas
    - Do not forget those areas where respiratory particles may accumulate due to staying in one place for an extended period
      - For example, a researcher watching an experiment outside a fume hood with the sash lowered, the exterior of the sash should be disinfected
  - For disinfection, diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and most common EPA-registered household disinfectants should be effective. Additional information on disinfectants can be found on the EPA website using this link https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2
    - Labels and Safety Data Sheets (SDS) contain instructions for safe and effective use of the cleaning product including precautions you should take when applying the product, such as wearing gloves and making sure you have good ventilation during use and product compatibility
    - Whatever products are used, ensure they are compatible with the surfaces to be disinfected or other materials they may contact
    - Be careful introducing new materials, or materials that have added fragrances, as some personnel my develop allergic reactions
    - Cleaning products used on a commercial scale fall under the UA Hazard Communication and Arkansas Chemical Right to Know programs -which can be accessed with this link https://vcfa.uark.edu/fayetteville-policies-procedures/fama/7102.php
    - If COVID-19 continues to escalate, commercial products may be difficult to obtain and keeping a stock of chlorine bleach/isopropyl alcohol will enable

creation of effective disinfecting solutions

- For example, an effective disinfectant can be created by mixing 1/3rd cup of bleach with a gallon of water while allowing the solution to contact the impacted surface for over 1 minute
- Make in amounts you plan to use and discard any solution left after 24 hours

- If required to clean and disinfect an area that has been used by a person known to have COVID-19, it is best to close the area off and let it set (at least 24 hours) before sending in a team with the appropriate personal protective equipment
  - If waiting 24 hours is not practicable, contact EHS for guidance
- Generally, common cleaning and disinfecting practices (e.g., surfaces by hand) are effective, but consideration may be given to the use of commercial disinfecting systems that produce a fog of electrostatic disinfecting particles
  - Several organizations across campus have these types of units that could be used to clean hard to disinfect, large or critical areas
  - In addition, there are contractors in the area that conduct large-scale disinfection
- One item where it is critical to apply effective cleaning and disinfection is our hands
  - It is critical everyone understands the importance of, and the proper method to conduct, effective hand hygiene
    - Wet your hands with clean running water (warm or cold) and lather your hands with soap to include the back/front of the hand, area inside the fingers, and the area under the nails for a total of 20 seconds (sing happy birthday twice, silently), rinse and dry
      - No real difference between air dry and towel dry if the towel is clean
    - If the hands are not especially dirty, or soap and water are not available, may disinfect the hands with an alcohol-based hand sanitizer that contains at least 60% alcohol
    - Apply and conduct cleaning as outlined for soap and water
- For general environmental cleaning and disinfection recommendations refer to the following link https://www.cdc.gov/coronavirus/2019-ncov/community/home/cleaning-disinfection.html

■ **Safety Practices and Personal Protective Equipment (PPE)**

- Generally, the recommended PPE when conducting activities associated with prevention of COVID-19 are covering/gown, gloves, and eye protection
  - Additional PPE may be required depending on the other materials being used so always check the SDS for recommendations and procedures not related to COVID-19

- Respiratory protection is generally not required from the COVID-19 perspective except for direct care/transport of persons with confirmed COVID-19
- Often there is confusion on what constitutes respiratory protection and what is the difference between a mask and a respirator





- Working from left to right above, you find what are commonly referred to as a surgical mask, N-95 dust mask, valved N-95 mask, half-face respirator and full-face respirator
  - All are considered respirators except the surgical mask on the far left and if a respirator is required to be used by the employer, it necessitates the need for medical exams, fit testing, training and a written plan
  - The surgical mask is most often used in healthcare settings mainly to prevent the release of respiratory droplets by individuals suspected or known to be infected
    - These masks provide little protection from particles in the breathing zone as they do not produce an effective seal around the face
  - All the other devices can achieve an effective seal and removal of particles in the breathing zone when properly sized, fit tested, and trained
- Cloth face coverings are now being recommended for use in public settings mainly to protect others from you especially if you are otherwise asymptomatic and may cough or sneeze on occasion and are considered an added protective measure and not PPE
- The CDC self-protection and cloth face covering guidelines can be accessed with these links

  https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html

  https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html
- A key aspect related to PPE use for COVID-19 response actions are the procedures to put on (Don) and take off (Doff) as the order is critical to prevent contamination/infection
  - The sequence for donning (putting on PPE) is typically gown/covering, mask or respirator, goggles or face shield and gloves
  - The sequence for doffing (taking off PPE) is typically gloves, face shield or goggles, gown and mask or respirator

- It is critical anytime an action is performed related to COVID-19 prevention and gloves are used, that they are changed whenever they are damaged and hand hygiene is performed immediately when gloves are removed
- Wastes produced from COVID-19 response actions (e.g., used cleaning materials, disposable PPE) that do not involve medical components (e.g., materials/fluids from a COVID confirmed patient) should be collected in a separate bag and sealed/tied-off and placed into a trash container
- One area to keep close attention is stock of PPE, especially one-use disposal items, as they are in short supply and becoming harder to restock
  - Suggest keeping close track of current inventory and only use when required
  - If critical stock (e.g., gloves) becomes low, may have to implement a rationing, and where appropriate, reuse protocol based on risks to include buying reusable gloves that have to be cleaned/disinfected after each use
- Details on PPE selection and use in health care related settings can be found at the following link

  https://www.cdc.gov/hai/pdfs/ppe/ppeslides6-29-04.pdf
- Safety practices for critical workers who may have been exposed to a person suspected or confirmed with COVID-19 can be found at the following link

  https://www.cdc.gov/coronavirus/2019-ncov/community/critical-workers/implementing- safety-practices.html

## Summary

- Stay knowledgeable and up to date with the most recent developments and guidance
- Keep mindful of key prevention and mitigation actions to limit close interactions, perform consistent hand hygiene and avoid touching mouth, nose and eyes
- If exhibiting any symptoms, or not feeling normal, do not come in to work
- Conduct frequent and appropriate cleaning and disinfection of high-touch surfaces
- If respiratory protection is required for any response actions, specific procedures will need to be followed that at a minimum will include medical exam, fit testing, and training on wear and use
- Any questions please contact EHS at 479-575-5448 and ENHS@uark.edu