

# CORONAVIRUS AND LAW ENFORCEMENT

The pandemic caused by the novel coronavirus known as COVID-19 has created new challenges in protecting the law enforcement community. Constant contact with the public, including during and following arrest, places police officers at higher than average risk for contracting the disease.

Executives, supervisors, and line personnel need to know: What do we really know about coronavirus? What can we do to keep us safe, whether on the street or back at the station?

## KEY RECOMMENDATIONS

### FOR EVERYONE

- Sleep. Shift work can compromise the effectiveness of officers' sleep and strain immune responsiveness.
- Wash hands using soap and hot water. If soap is not available, use an antimicrobial hand sanitizer.
- Wear nitrile examination gloves properly, and avoid touching cell phone, pens, and other tools to prevent cross-contamination.
- Use an Environmental Protection Agency (EPA)-recommended cleaner to wipe surfaces such as phones, pens, steering wheels, etc.
- Use an N95 respirator, filtering face-piece mask (FFP), surgical mask, or even a handmade cloth mask.
- Provide arrestees with a mask to wear from time of arrest through transport and/or in the holding cell.
- Use a dedicated patrol car for COVID-19 arrest transports, with both the transporting officer and suspect wearing masks.
- Change clothing at the police station and launder it regularly outside the home.

### FOR INVESTIGATIVE PERSONNEL

- Consider limiting contact with the public by, for instance, interviewing witnesses remotely via video conference or telephone.
- Consider whether search warrants are necessary and/or can be delayed.

- If a search warrant cannot be delayed, brief the entry team in advance on the items to be seized and protocols for seizing biological evidence before wiping down physical evidence.
- Wipe and secure unsoiled physical evidence per standard operating procedure.
- Bag and tag soiled physical evidence per standard operating procedure, and always while wearing gloves.
- If the evidence is a digital device, process it for DNA and serology, wipe it with an EPA-approved product, and deliver to the digital forensic lab.

### FOR LAB PERSONNEL

- Before-and-after protocols for digital forensic examiners should consist of decontaminating the work area and the device(s) as well as the appropriate use of personal protective equipment and avoiding cross-contamination.
- Dispose of gloves in a designated garbage can with a bag that can be removed when full.

### FOR LAW ENFORCEMENT EXECUTIVES

- If considering the decontamination of sizable interior spaces such as vehicles, rooms, or holding areas, weigh the benefit against potential risks of methods such as ozone generators and ultraviolet light.
- Personnel who show signs of illness -- or are responsible for caring for sick family members -- must be allowed time for sufficient sleep to recover from the disease and maintain an adequate immune system.
- Employee mental health must also be a priority, as stress -- whether from quarantine, caregiving, exposure, illness, or other factors -- can depress the immune system as well.
- Balance short- and long-term impacts to officer safety, remembering that without vaccines or antiviral interventions, creative solutions to shortages may be necessary.

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Law enforcement represents one of three public safety services that are front line responders for the general public. Whether it is conducting a traffic stop, responding to a radio call for service, investigating crimes, or working in a forensic laboratory, law enforcement professionals are exposed to a number of dangers, including microbial dangers.

Recently, the coronavirus pandemic has created new challenges in protecting the law enforcement community. Executives, supervisors, and line personnel need to know: What do we really know about coronavirus? What can we do to keep us safe, whether it be on the street or back at the station?

## WHAT IS CORONAVIRUS, GENERALLY?

Coronavirus is an umbrella term for myriad viruses that can infect a range of hosts. Found in both avian (e.g. birds) and mammalian (e.g. humans) species, coronaviruses are characterized by a crown or halo-like appearance when placed under an electron microscope. It is spread mainly via airborne droplets. See e.g. S. Baron, *Medical Microbiology* (4<sup>th</sup> Ed.), "Chapter 60: Coronaviruses," Galveston (TX): University of Texas Medical Branch at Galveston: 1996, available at: <https://www.ncbi.nlm.nih.gov/books/NBK7782/> (last accessed March 28, 2020).

The symptoms of infection typically mimic the common cold, including an occasional cough, runny nose, and upper respiratory issues, but historically rarely caused lower respiratory problems. Since it is a virus, treatment largely rests on controlling these symptoms, rather than the use of antibiotics.

## COVID-19

In December 2019, however, a novel coronavirus outbreak, caused by Severe Acute Respiratory Syndrome (SARS) Coronavirus 2, was documented in the Wuhan Province of China. This outbreak quickly spread to over 100 countries on six continents, and overwhelmed health systems.

To enable "meaningful discussion on the prevention, spread, and transmission of the coronavirus outbreak," the World Health Organization (WHO) announced the official name for the novel coronavirus: Coronavirus Disease 2019 or COVID-19. See "Naming the coronavirus disease (COVID-19) and the virus that causes it," available at [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it) (last accessed on March 28, 2019).

Like coronaviruses generally, the airborne droplets that spread COVID-19 can either be inhaled, or introduced to the body after an individual has touched surfaces where these airborne droplets are deposited. The incubation period -- the time it takes for this disease to make its ugly appearance -- typically is between two (2) to fourteen (14) days. Unlike most coronaviruses, however, the disease attacks both the upper and lower lobes of the lungs.

The droplets enter the body typically through the eyes or nose, whether by an individual placing their hands on their eyes or nose, or inhaled after an individual sneezes them from the body. After entering the body, the disease affects the cells and populates, causing damage throughout the respiratory system.

The body's natural response to such an infection is its inflammatory system, resulting in a low grade fever to suppress the disease and a mild cough. Most individuals can successfully fight the infection and recover.

However, because the individual's immune system is now compromised, they are susceptible to both bacterial and viral infections. As a result of damage from the coronavirus and other types of infection such as pneumonia, an individual can

develop acute respiratory distress syndrome (ARDS), ultimately resulting in severe respiratory distress and requiring use of a ventilator.

If the individual already is immunocompromised by asthma, cardiovascular issues, cancer, or related issues (such as age, greater than 65), the disease has a higher likelihood of causing death or disability as the person already has a complication -- their immune systems are already weak.

## HOW LONG DOES THE DISEASE SURVIVE OUTSIDE THE BODY?

The question that often arises among the general public is: How long does the disease survive outside the body?

In March 2020, a group of researchers conducted a study on the stability of COVID-19 in the air by using aerosols and testing the virus' survivability on various surfaces. See N van Doremalen, et al. "Aerosol and surface stability of HCoV-19 (SARS-CoV-2) compared to SARS-CoV-1," The New England Journal of Medicine (NEJM), available at:

[https://www.nejm.org/doi/full/10.1056/NEJMc2004973?query=featured\\_home](https://www.nejm.org/doi/full/10.1056/NEJMc2004973?query=featured_home) (last accessed March 28, 2020).

The study found that the disease remained viable for approximately 3 hours, survived on copper for up to 4 hours, on cardboard for 24 hours, and on plastic and stainless steel up to 3 to 4 days.

That same month, a study by the Centers for Disease Control (CDC) on the virus' viability on cruise-ship surfaces found that the virus could survive up to 17 days after passengers disembarked. See Moriarty, et. al. Public Health Responses to COVID-19 Outbreaks on Cruise Ships — Worldwide, February–March 2020. CDC Morbidity and Mortality Weekly / March 26, 2020 / 69(12);347-352, available at: [https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e3.htm?s\\_cid=mm6912e3\\_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e3.htm?s_cid=mm6912e3_w) (last accessed April 14, 2020).

The NEJM study was met with some criticism by researchers. Indeed, subsequent studies showed no aerosolized coronavirus particles in the hospital rooms of COVID-19 patients because the disease is airborne only for a few seconds after someone sneezes or coughs. The disease is made up of denser particles than measles, making its transmission unlikely for the general public unless close to the infected person. See Sharon Begley, STAT "The New coronavirus can likely remain airborne for some time. That doesn't mean we're doomed," March 16, 2020, available at: <https://www.statnews.com/2020/03/16/coronavirus-can-become-aerosol-doesnt-mean-doomed/> (last accessed March 28, 2020).

This conflicting study suggests that healthcare personnel have a higher risk of contracting the disease through the air at work than the general public. Otherwise, families would be seeing multiple persons sick within a household, which is not occurring at a dramatic rate. What is more, once a person begins to recover from the disease, the chance of that person transmitting the virus is believed to be low; but research is ongoing in that area.

It is unknown how long the disease can survive on clothes; but the disease certainly can survive on clothing as well as hard surfaces.

## WHERE DOES THIS LEAVE THE AVERAGE LAW ENFORCEMENT OFFICER?

The average police officer remains at higher than average risk for contracting the disease because of their constant contact with the public. At a vehicle stop, for instance, the officer will:

- interact with a motorist
- obtain various documents from a potentially infected person
- travel to their patrol car
- access a computer in their patrol car
- return with a warning or traffic ticket

Person to person contact, such as interacting with an individual experiencing a mental health crisis, further heightens the risk. The officer will likely be unable to interact outside of the recommended six feet of distance between persons.

Moreover, despite the threat of prosecution, contact -- whether malicious or inadvertent -- with saliva, blood, or other bodily fluids may be unavoidable.

Following either type of interaction and upon returning to their patrol car, the officer may turn off their body worn camera, answer a phone call by touching its screen, and otherwise drive back onto a roadway.

The police officer therefore has touched numerous surfaces, allowing that person -- and potentially, the next person to use the vehicle -- to contract the disease. These issues are compounded if the police officer makes an arrest, exposing them to the arrestee's air droplets both during transport and in the holding area.

## PERSONAL PROTECTIVE EQUIPMENT AND OTHER PREVENTIVE MEASURES

Since the officer is exposed to so many potential surfaces, the officer should wear nitrile examination gloves properly, and avoid touching their cell phone, pens, and other potential tools capable of cross-contamination while wearing the gloves. The use of a window to obtain documents may also prevent airborne particulates from causing infection.

The use of N95 respirators is uncertain in this environment in light of the criticism of the NEJM study. While the examiner should defer to their personal and departmental physician, if permissible, the use of an N95 Respirator, Filtering Face-Piece mask (FFP), surgical mask, or even a handmade cloth mask will provide some level of protection, as many infected by the disease are asymptomatic.

The proper donning of an N95 respirator will reduce the chance of contraction of the disease, particularly during transport and when a suspect is in a holding cell. Upon arrest, a police officer should also provide the suspect with a mask to wear from time of arrest through transport and, if allowed under policy, in the holding cell. This precaution protects both the officer and the arrestee.

The officer also must remove gloves properly, then wipe any potentially contaminated surface -- including but not limited to phone, pens, steering wheel, and related surfaces -- with an Environmental Protection Agency (EPA)-recommended cleaner. See Products with Emerging Viral Pathogens and Human Coronavirus Claims for Use against SAR-COV-2, available at <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2> (last accessed March 4, 2020).

Lastly, police officers are recommended to change their clothing at the local police station and launder it regularly outside the home.

## SPECIAL CONSIDERATIONS FOR INVESTIGATING OFFICERS

The risk is not reduced for detectives, who must interview witnesses, visit crime scenes, and interact with the general public as well. In addition to the recommendations above, the detective should consider limiting contact with the public by, for instance, interviewing witnesses remotely via video conference or telephone, and/or obtaining documents via electronic rather than traditional means.

In New Jersey, for example, the state supreme court now permits electronic search warrant applications and authorizations. See Directive #10-20, "Process for Search Warrants and Communications Data Warrants in Response to COVID-19," Administrative Office of the Courts, available at <https://njcourts.gov/notices/2020/n200401b.pdf?c=0qR> (last accessed April 14, 2020). The detective equally must wipe their work areas and vehicles appropriately.

The key protection against transmission for an average patrol officer remains sleep and maintaining a healthy immune system, especially when that officer is subjected to shift work, which can compromise the effectiveness of their sleep schedule and strain the responsiveness of their immune system.

## EXECUTING SEARCH WARRANTS

The search warrant execution represents a culmination of investigation, involving police officers, detectives, and forensic examiners. Under normal circumstances, the execution involves specially trained police officers:

- entering a premises (by force if necessary).
- searching for any life safety threats.
- securing the premises for search by an investigating officer.

If permitted in the jurisdiction, forensic examiners may conduct a secure preview of any digital devices seized pursuant to the terms of the warrant.

Because of this unique challenge, law enforcement should consider if the warrant is necessary and/or can be delayed. The traditional roles of a search warrant team equally may need to be modified. The entry team, wearing protective clothing including gloves and an N95 respirator, may need to also be briefed in advance on the items to be seized and questions to be asked of any resident within the premises.

COVID-19 represents a unique challenge for law enforcement in a search warrant setting. The danger is not only the potential of a suspect hiding under the bed with a weapon, but also rather the air within the premises that officers breathe, and every surface they touch during the search.

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## EVIDENCE HANDLING

While the seizure of evidence is important for both police officers and detectives to be trained on during the COVID-19 pandemic, any team involved with serving a search warrant should be briefed on protocols for seizing biological evidence before wiping down physical evidence, including digital devices for secure preview.

If the piece of evidence is not soiled by blood or biological evidence, it should be wiped and secured via standard operating procedure. When dealing with fecal material, the officer or detective should always wear an N95 Respirator, gloves, and gown, as evidence suggests that the disease sheds via fecal microbes in addition to airborne microbes. See Fei, et al. "Evidence for Gastrointestinal Infection of SARS-CoV-2," *Gastroenterology*, available at [https://www.gastrojournal.org/article/S0016-5085\(20\)30282-1/pdf](https://www.gastrojournal.org/article/S0016-5085(20)30282-1/pdf) (last accessed April 14, 2020)

If the piece of evidence is soiled by biological material, it should be bagged and tagged pursuant to protocol but

always handled with a gloved hand. If the evidence is digital evidence, the evidence must be processed for DNA and serology, wiped appropriately with an EPA-approved product, and delivered to the digital forensics lab.

Additionally, if anyone is arrested, a dedicated patrol car for COVID-19 transports should be used, with both the transporting officer and suspect wearing masks to prevent the spread of any potential disease.

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## FOLLOWING WARRANT EXECUTION

- The entry team should launder their clothes in a dedicated washer for biohazard material without shaking out their clothes or otherwise enabling air particulates to be disseminated.
- Agencies that contract with a dry cleaning service should follow existing standard biohazard protocols to minimize risk to dry cleaners.
- Each team member should shower and change into clean clothes prior to leaving the station to avoid bringing any potential contaminant vectors to their homes.

## IN LABORATORY ENVIRONMENTS

The digital forensic examiner likewise should wear appropriate clothing, changing at work rather than at home. At a minimum, before proceeding with normal digital forensic examination, the digital forensic examiner should:

- Wipe their work area with an appropriate disinfectant while wearing gloves before beginning work.
- Don gloves
- Wipe the digital device, including the screen, liberally with an EPA approved product
- Wait for the surface to dry
- Remove the gloves
- Don a new set to prevent cross contamination.

After completing the examination, the examiner should:

- Remove their gloves
- Don another pair
- Wipe their work surface again
- Proceed to report writing or the next examination.

The gloves can be disposed of in a designated garbage can with a bag that can be removed when full.

Finally, it may become necessary or desirable to unobtrusively decontaminate sizable interior spaces such as vehicles, rooms, labs, or holding areas. Alternatively, to save costs and ensure availability, some organizations seek ways to decontaminate N95 respirators and other personal protective equipment.

Decontamination methods shown to be successful in disinfecting ambulances or other spaces include ozone generators and ultraviolet light. UV light has also been shown as an effective method in decontaminating N95 respirators for reuse. See Lowe, et al. "N95 Filtering Facepiece Respirator Ultraviolet Germicidal Irradiation (UVGI) Process for Decontamination and Reuse," Nebraska Medicine, available at <https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf> (last accessed April 14, 2020).

However, these methods may have significant risks to human life and health. UV lights can cause serious skin damage to humans, while ozone is a known pollutant and lung irritant, banned for general use in California. See "Hazardous Ozone-Generating 'Air Purifiers,'" California Air Resources Board, available at <https://ww2.arb.ca.gov/our-work/programs/air-cleaners-ozone-products/hazardous-ozone-generating-air-purifiers> (last accessed April 14, 2020).

The use of these methods may put a room, holding area, or vehicle out of commission during and/or for several hours after use, and they should be used only by trained operators to limit the risk of injury to users.

## POTENTIAL BRADY CONSIDERATIONS

Digital forensic examiners in partnership with prosecutors and investigators should consider the propriety of physical evidence collection from digital devices, including biological fluids, DNA, or fingerprints depending on case needs, and apply the above safety considerations to this collection process. While a niche scenario, it is conceivable that defense attorneys would raise claims of *Brady* violations if such physical evidence were eliminated by COVID-19 influenced decontamination processes.

For example, a defense attorney might argue that the destroyed physical evidence would have proven that another individual accessed the device, or rebutted the prosecution's assertion that the defendant possessed the device. A vague assertion by the defense that evidence "might have" existed is unlikely to be successful, and prosecutors typically should have numerous corroborative avenues to demonstrate device possession.

## CONCLUSION

Regardless of an individual's title, the police officer, detective, or forensic examiner can and must practice good hygiene by using soap and hot water to wash their hands appropriately. See "Handwashing: Clean Hands Save Lives," Centers for Disease Control & Prevention, available at <https://www.cdc.gov/handwashing/publications-data-stats.html> (last accessed April 14, 2020) If soap is not immediately available, the member of service should use an antimicrobial hand sanitizer.

The member of service also must consider use of an N95 respirator when appropriate and necessary under the circumstances.

Lastly, if personnel show signs of illness -- or if they are responsible for caring for sick family members -- law enforcement executives must allow them time for sufficient sleep to recover from the disease and maintain an adequate immune system. Failure to do so will result in one person infecting the entire department.

Employee mental health must also be a priority, as stress -- whether from quarantine, caregiving, exposure, illness, or other factors -- can depress the immune system as well. See Dhabhar, FS "Effects of stress on immune function: the good, the bad, and the beautiful," Immunologic Research, 2014 May;58(2-3):193-210 available at <https://www.ncbi.nlm.nih.gov/pubmed/24798553> (last accessed April 14, 2020)

The member of service equally should have a heightened awareness of what they touch with a gloved hand versus an ungloved hand. Now more than ever, an individual should wipe their pens/pencils, cell phones, guns, and other tools of the trade frequently used but overlooked to prevent transmission of the disease.

Executives dealing with staff shortages must balance short- and long-term impacts to officer safety, remembering that without vaccines or antiviral interventions, creative solutions to shortages may be necessary.

*Christa Miller, an independent contractor, contributed to this document.*