

Technical Service Bulletin



Coronavirus 2019-nCoV (Wuhan/Covid-19)

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Background:

During the winter of 2019 a respiratory disease began to emerge, with the epicenter in Wuhan China. A new strain of virus, belonging to the Coronavirus family, has been identified as the causative agent for this disease. Unlike other Coronavirus members, the 2019-nCoV virus has not been previously identified. Further, the 2019-nCoV virus while being a member of the Coronavirus family, is different from other Coronavirus which have caused outbreaks in humans including the SARS virus (Severe Acute Respiratory Syndrome) and the MERS virus (Middle East Respiratory Syndrome). As a family, the Coronavirus are large enveloped virus, with the envelope generally making the virus more susceptible to chemical inactivation as compared to smaller non-enveloped viruses. Researchers and Public Health professionals are actively researching this newly discovered virus for it's transmission mechanisms, methods of treatment, selection of antiviral medicinal compounds, origin, morbidity and mortality, means of containment, and other virology attributes. The containment of the virus and minimizing of viral spread are currently under active review and the global importance of this new agent is under constant review.

Treatment of Healthcare Patients Known or Suspected to Exhibit Disease

At this time, there are numerous steps being taken to quarantine the virus and minimize its global spread. Individuals which have traveled to-and-from China, and exhibit symptoms consistent with this disease, are being quarantined locally and maybe admitted to a healthcare facility. Those admitted to a hospital will be place into Respiratory Isolation. Protective disposable gowning will be utilized by all Healthcare Workers who engage with the patient being monitored for this virus as will protective masks covering the nose and mouth. Respirators may also be employed.

Specific to Environmental Controls, the current (2/3/2020) CDC recommendations for addressing known/suspected patients exhibiting the 2019-nCoV disease include:

- Use dedicated medical equipment for patient care when feasible.
- Clean and disinfect all non-dedicated/non-disposable medical equipment as per manufacturer instructions.
- Ensure environmental cleaning and disinfection procedures are followed.
- Utilize an EPA-registered, hospital-grade disinfectant for routine cleaning and disinfection. Products with EPA-approved emerging viral pathogens claims are recommended for use against 2019-nCoV.
- ***"Management of laundry, food service utensils and medical waste should also be performed in accordance with routine procedures."***

Processing Soiled Linens from Healthcare Patients Known/Suspected of Harboring 2019-nCoV

According to the 2007 Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (update July 2019) soiled textiles should be “handled, transported and laundered in a safe manner”.

The healthcare launderer will want to review their policies and practices for receiving bagged soiled linens into their facility and ensure their staff in soil sort have the appropriate personnel protective equipment, which may also include face masks. The efficacy of the laundering process at removing and/or inactivating the potentially present Coronavirus should be gauged against the efficacy of the existing laundering process to remove other microbial contaminants.

For those interested in reviewing additional laundry processing guidelines which have been issued in response to the Covid-19 outbreak, a number of trade-associations have published their recommendations and interpretation of Governmental and Health Association Guidance. A number of these position documents are presented in the webpage links included below.

At this time the Global Healthcare Community is in a fluid and fast-moving response to this newly identified viral pathogen. The recommendations of the CDC and WHO will be updated as new information is developed. At this time, there are no published laundry protocols mandating specific laundering protocols for reusable healthcare linens used in the care of persons infected with Coronavirus 2019-nCoV.

For those who are personally concerned about this viral outbreak, you should take comfort in knowing that on the scale of microbial sensitivity to inactivation/kill, the enveloped viruses including the Coronavirus family are the most susceptible to physio/chemical destruction. As illustrated in the table presented below, there is a hierarchy of sensitivity/resistance to chemical germicides with bacterial spores being most-resistant and enveloped viruses being least-resistant. Following the practices of Universal Precautions, Hygienically Cleaning laundering programs, robust environmental cleaning and diligent hand-hygiene you will break the Chain-of-Infection. As with other human pathogens, be they viral, bacterial or protozoan, there must be a sufficient infective dose to initiate an infection. Breaking the Chain of Infection by removing and destroying potentially present pathogens will produce clean and safe textiles.

Picture 1) Microbial Sensitivity to Chemical Germicides

TABLE 28.5. Approximate disinfection scale for all organisms in order of increasing resistance (response to commercial disinfectants)

Microbial susceptibility group ^a	Microorganisms (dried on carriers)
A	Retroviruses (AIDS), ortho and paramyxoviruses, herpes viruses, vaccinia, corona, other enveloped viruses, gram-negative rods and some filamentous fungi; some gram-positive cocci, human hepatitis B virus
B	<i>Staphylococcus aureus</i> , some diphasic and filamentous fungi, yeasts and algae, some gram-negative rods
C	Adenoviruses
D	Mycobacterium tuberculosis (BCG strain) ^b , rotaviruses, reoviruses, some mold ascospores
E	Picornaviruses (polio, rhino) Parvoviruses (SS DNA), hepatitis A
F	Bacterial endospores (<i>Bacillus</i> , <i>Clostridium</i>); viroids
G	Prions (chronic infectious neuropathic agents, slow viruses)

Associations Links

<https://americanlaundrynews.com/articles/current-laundry-techniques-should-kill-coronavirus-infection-prevention-consultant>
<https://www.trsa.org/news/coronavirus-trsa-guidance-docs-advisories-webinar-info/>
https://590ba01b-dcbf-4e77-94ad-ad2a3ff26d55.filesusr.com/ugd/076879_632d2c18c83f4a69be496535722d3d9e.pdf

References

Centers for Disease Control & Prevention: Interim Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for 2019 Novel Coronavirus (2019-nCoV) in a Healthcare Setting. <https://www.cdc.gov/coronavirus/2019-ncov/index.html>
<https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>

2007 Guideline for Isolation Precautions: Preventing Transmission of Infection Agents in Healthcare Settings.

World Health Organization: Infection Prevention and Control during health care when novel coronavirus (NCoV) infection is suspected, January 25, 2020.

Centers for Medicare and Medicaid Services: Guidance for Infection Control and Prevention Concerning Coronavirus Disease (COVID-19): FAQs and Considerations for Patient Triage, Placement and Hospital Discharge. March 4, 2020.

Control of Communicable Diseases in Man. Abram s. Benenson, 15th Edition, 1990.

Glossary

Endemic: The constant presence of a disease or infectious agent within a given geographic area.

Epidemic: The occurrence in a community or region of cases of an illness (or an outbreak) clearly in excess of expectancy.

Pandemic: A pandemic is an epidemic of disease that has spread across a large region; for instance multiple continents, or even worldwide.