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Proactive Precautions Against Polio Infections

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Along with the current Covid-19 pandemic, the world is seeing the rapid emergence of another significant viral infection. In July 2022, poliovirus was identified in U.S. patients for the first time in over a decade. Polio infections were virtually nonexistent until recently, when several cases were reported in New York State and the virus was found in wastewater samples. This emerging disease presents a challenge not only to healthcare providers but, also to the community at large as we look to contain it and prevent the outbreak from worsening. This document will provide a brief overview of the disease and what proactive precautions can be taken to reduce the risk of infection.

▲ Poliovirus Answered

Polio is one of the human enteroviruses, a group of small unenveloped RNA viruses that are highly infectious and potentially deadly. Polio, or poliomyelitis, is a disabling and life-threatening disease that can infect a person's spinal cord, causing paralysis. There are three serotypes of poliovirus, each with a slightly different capsid structure. Luckily, there are highly effective multivalent vaccines available that protect against all three serotypes.

Typically, polio spreads person to person via the fecal-oral route. The virus can live in infected feces for many weeks on fomites, including both hard surfaces and linens, and can also contaminate food or water. Most infected individuals exhibit very mild non-visible symptoms or are asymptomatic however, they can still be contagious and unknowingly transmit the virus to others.

▲ Preventative Measures

For polioviruses, breaking the chain of transmission requires a multi-faceted approach that should include

vaccination, isolation if infected, hand hygiene, and extensive cleaning and disinfection of spaces occupied by infected individuals. The surface cleaning and disinfection component of prevention must be completed using a disinfectant that is EPA registered as effective against the organism of concern.

Polio is a small unenveloped virus that is harder to kill in the environment and many disinfectants are not effective. Make sure the product has a specific claim against the poliovirus on the label, once again such as the safer solutions PurOne and PurTabs with no need for precleaning.

In spaces a known infected individual has inhabited, it is wise to increase the frequency of cleaning from daily to twice or even three times a day, and to ensure all high-touch surfaces are addressed in the disinfection process, including floors. Hospital terminal cleans should be especially thorough, covering all surfaces in a room including ceilings and walls. The use of enhanced disinfection procedures such as electrostatic spraying should also be considered but, it is important to ensure

7 Steps to Protect

Through a well-planned cleaning and disinfection program, we can help reduce the risk of infection from this re-emerging viral pathogen. To sum up, there are seven key precautions that should be taken to prevent polio viral infections:

- 1.** Select cleaning and disinfecting products with an **EPA registered polio claim**
- 2.** Select cleaning and disinfecting products that are a **single application with no precleaning**
- 3.** Select disinfectant products that are **EPA registered for use with Electrostatic Sprayers**
- 4.** Increase the frequency of **cleaning and disinfection to 2-3 times per day**
- 5.** Provide staff with **appropriate PPE and adequate training** on its correct use
- 6.** Ensure **laundry is handled properly**, use disinfectant in the cleaning cycle
- 7.** **Always be proactively prepared** as infected individuals can be anywhere

the disinfectant used is EPA registered for electrostatic application.

The process of laundering bed linens, towels, and other soft fabrics from rooms occupied by infected individuals requires special attention, particularly in a communal laundry setting. As much as possible, laundry from known contaminated rooms should be cleaned separately and at no time should the contents be opened, shaken or sorted. Ideally, the use of dissolvable laundry bags is recommended as well as the addition of a disinfecting tablet like PurTabs to attain 400 ppm and help reduce the viral load. To mitigate the risk of cross contamination, follow good basic practices and keep dirty incoming material separate from clean outgoing material in handling areas.

Most hospitals and senior care establishments are well versed in cleaning patient rooms and following contact precautions. Of greater concern are non-healthcare facilities such as hotels, hostels, shelters, prisons, and even home environments that may house infected but asymptomatic or only mildly impacted individuals. To

prevent polio infections from spreading, other industry sectors as well as the general public should follow the same contact precautions when cleaning guest rooms, communal living quarters and in some instances, private residences.

▲ A Note of Caution

When cleaning surfaces suspected of harboring the poliovirus, it is critical that appropriate PPE be worn by the individual performing the disinfection activities. As the virus presents a potential infection risk, it is highly recommended that those engaged in this work should have current vaccinations, wear gloves, eye protection, a disposable gown, and a mask, ideally a face shield. It is also important that the individuals tasked with cleaning these spaces are adequately trained in the process of donning and doffing PPE to avoid self-contamination. Laundry workers are also at risk of infection from handling contaminated materials and, as with cleaning personnel, should be provided with appropriate PPE and trained on its proper use. ■