POLIOVIRUS

Federal Bureau of Prisons

Clinical Guidance

October 2022

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1. PURPOSE

The purpose of the BOP Clinical Guidance for *Poliovirus Infection including Poliomyelitis (Polio)* is to provide recommended procedures for detection, diagnosis, treatment, and prevention of poliovirus infection in the correctional setting.

2. BACKGROUND AND ETIOLOGY

Naturally occurring (wild) poliovirus is no longer endemic in the United States. However, unvaccinated or partially vaccinated persons are at risk for paralytic poliomyelitis (commonly referred to as "polio") if they are exposed to either wild or oral vaccine-derived poliovirus. Such exposures may occur during travel to countries that either have not eliminated wild poliovirus transmission or to countries that use oral polio vaccine formulations. When at-risk infected travelers return to the United States, they may infect others who are similarly unvaccinated or partially vaccinated.

Only two incidents of oral vaccine-derived poliovirus transmission have been confirmed in the United States since 1979, most recently in 2022. In both instances, the chain of transmission originated from someone who had received the oral polio vaccine outside the United States, since the only polio vaccine used in the United States since 2000 has been inactivated polio vaccine.

POLIO is caused by the poliovirus, a neurotropic enterovirus, which targets motor neurons in the spinal cord and brainstem. For general information concerning polio, see *https://www.cdc.gov/polio/what-is-polio/index.htm*.

3. TRANSMISSION

Poliovirus is very contagious and infects only humans. Polio may occur from wild polio infection or from oral polio vaccination, which is used by many countries but not the United States. The virus is transmitted person-to-person via the fecal-oral route or less commonly, by pharyngeal secretions (oral-oral route). It enters through the mouth and multiplies in the oropharynx and gastrointestinal tract.

4. CLINICAL PRESENTATION

SPECTRUM OF POLIOVIRUS INFECTION

- **ASYMPTOMATIC INFECTION:** Most infected individuals do not have any visible symptoms.
- **INFLUENZA-LIKE ILLNESS:** Approximately 25% of infected individuals will have an influenza-like illness (e.g., headache, sore throat, fever, nausea, vomiting, malaise, and fatigue) without clinical or laboratory evidence of central nervous system involvement lasting 2-5 days.
- **CENTRAL NERVOUS SYSTEM INFECTION:**
  - **NONPARALYTIC POLIOMYELITIS (I.E., MENINGITIS):** A fraction of individuals with abortive polio and major viremia will develop meningitis after a symptom-free interval of a few days signaled by neck stiffness, headache, fever, and vomiting.
  - **PARALYTIC POLIOMYELITIS (I.E., POLIO):** Less than 1% of infected individuals will develop acute flaccid weakness or paralysis in their arms, legs, or both – a hallmark of polio. The onset of

weakness typically coincides with signs and symptoms of meningitis and muscle pain. Tone is reduced, nearly always in an asymmetric manner. Proximal muscles usually are affected more than distal muscles, and legs more commonly than arms. Reflexes are decreased or absent. The sensory examination is almost always normal.

➔ ***The differential diagnosis of polio includes*** *a range of other causes of acute flaccid paralysis, both infectious and noninfectious (e.g., botulism)**. From a practical clinical standpoint, the illnesses that most resemble polio are* ***other enterovirus infections, West Nile virus, and Guillain-Barré syndrome****. It is important to identify Guillain-Barré syndrome when present, because Guillain-Barré responds to treatment with intravenous immune globulin and plasma exchange.*

Disease Course

- Weakness, when present, typically worsens over 2-3 days, although sometimes worsening can progress for up to a week. Respiratory insufficiency may occur. The paralysis can lead to permanent disability or death.
- **Post-polio syndrome (PPS):** Studies estimate that 25-40% of polio survivors develop new or progressive muscle weakness and disability (including pain, fatigue, and difficulty concentrating) decades after initial infection. While the etiology is unclear, hypotheses include progressive degeneration of reinnervated motor units, persistence of poliovirus in neural tissue, and induction of autoimmunity with consequent destruction of neural structures. Unlike polio, PPS is not contagious.

➔ *For additional information, see https://www.cdc.gov/polio/what-is-polio/hcp.html.*

5. INFECTIOUS AND INCUBATION PERIODS

- **Incubation Period:** The incubation period for nonparalytic symptoms is 3-6 days. The onset of paralysis usually occurs 7-21 days after infection.
- **Infectious Period:** Persons infected with poliovirus can spread the virus to other persons days immediately before symptoms appear and as long as the virus remains in pharyngeal secretions (first 1-2 weeks of illness only) and stools (6 weeks). The virus can be shed in stools even by persons with minor symptoms or no obvious illness.

6. DIAGNOSIS

A Presumptive Diagnosis of Poliovirus Infection is Based on:

- Clinical suspicion (e.g., no symptoms ***or*** influenza-like illness ***or*** aseptic meningitis and/or acute flaccid weakness/descending paralysis in one or more limbs with associated decreased or absent tendon reflexes without apparent cause and without sensory or cognitive loss)
  AND
- Epidemiologic risk factors for infection (e.g., not vaccinated or partially vaccinated and recently resided in, traveled to, or in contact with a person who traveled to an area where polio is occurring).

- When acute flaccid weakness is the dominant feature, testing should include blood, cerebrospinal fluid (CSF), stool, and respiratory specimens to also evaluate for other common causes of acute flaccid weakness (e.g., West Nile virus, Lyme disease, HIV infection, non-polio enteroviruses).
  - *Patients suspected of having paralytic poliomyelitis (i.e., polio) should immediately be transported to an emergency room.*
- In patients with suspected meningitis, early examination of the CSF is critical.
- Serology may be helpful in supporting the diagnosis of polio, particularly if a patient is known or suspected to not be vaccinated. An acute serum specimen should be obtained as early in the course of disease as possible, and a convalescent specimen should be obtained at least 3 weeks later. Titers to determine presence of immunity are not indicated.

A CONFIRMATORY DIAGNOSIS OF POLIOVIRUS INFECTION IS BASED:

- Viral isolation from the stool or throat, the latter in the first week of illness only. **Viral isolation from the stool is the confirmatory gold standard test.**
  - Utilize the Enterovirus RNA, qualitative real time PCR collected in viral transport medium via swab samples. Collect 2 specimens at least 24 hours apart during the first 14 days after onset of paralytic disease. Store specimens at -20°C and ship frozen.
  - The test is active in BEMR and is processed through Quest. Testing supplies can be ordered through Quest.

- *Patients who are suspected of having poliovirus infection but not paralytic poliomyelitis and who are placed in medical isolation pending diagnostic confirmation should be coded in BEMR with ICD-10 code **Z20.89**: Contact with and (suspected) exposure to other communicable diseases. Add free text: Poliovirus*
- *Patients with a confirmed diagnosis of poliovirus infection should be coded in BEMR with ICD-10 code A809: Acute poliomyelitis, G14: Post-polio syndrome or **M8960**: Osteopathy after poliomyelitis*

REPORTING

- ALL cases of inmate poliovirus infection should be reported via the **BOP Reportable Infectious Disease (RID)** system and to the local or state public health department per state requirements.
- Per **Program Statement 6701.01 *Employee Health Care***, all employees are required to report a poliovirus diagnosis to their institution human resource department for forwarding to the Health Services Division Occupational Safety & Health Branch.

7. TREATMENT

There is no specific treatment for poliovirus infection, including polio, with no approved antiviral therapies. Treatment is supportive and in the case of polio, includes pain management, physical and occupational therapy, and mechanical ventilation, if necessary.

8. PREVENTION AND CONTROL

PROMOTE HEALTHY HABITS

The following measures will help protect against the spread of any infectious diseases, including poliovirus:

- Regular hand washing with soap and water or 60% alcohol-based hand rub.
- Emphasize cleaning of high-touch surfaces (e.g., doorknobs, handrails, telephones, keys, computer keyboards)
- Promote awareness of the risk of infectious disease spread in the correctional environment.

PROACTIVE PREVENTION MEASURES

- Screen all new arrivals to determine whether they have resided in, traveled to, or were in contact with anyone who traveled to an area where community transmission of polio has occurred during the last 21 days.
- **MEDICAL ISOLATION:** Patients for whom there is clinical suspicion ***and*** who have epidemiologic risk factors for poliovirus infection should be housed in medical isolation cells with solid walls, solid doors, and a dedicated sink and toilet. Patients should not be cohorted together during their work-up since different infectious diseases may have similar presentations, thus allowing for transmission to occur. In addition, polioviruses consist of different serotypes and immunity to one does not produce significant immunity to the other serotypes.
  - Psychology staff should be consulted to ensure patients are evaluated for their suicidality risk and/or to make mental health recommendations.
  - Medical isolation should continue while awaiting diagnostic confirmation until either poliovirus infection has been ruled out or an alternative diagnosis made.
  - Patients should be placed on medical hold in BEMR/SENTRY until either poliovirus infection has been ruled out or they have successfully completed the isolation period.
  - If poliovirus infection is confirmed, patients will remain in medical isolation for 6 weeks from time of symptom onset or if they have no symptoms, from time of diagnosis. If patients are immunocompromised, consult with the Regional Medical Director for the duration of medical isolation.
  - While in medical isolation, patients should undergo daily temperature checks and medical assessments to monitor for any progression of disease and receive symptomatic treatment as needed. Inmates with signs of disease progression such as meningeal symptoms, weakness or paralysis should be transported to an emergency room.
  - Counsel patients regarding the importance of hand washing with soap and water. **Alcohol-based hand rub does NOT kill poliovirus.**
  - Patients in medical isolation should NOT be transferred out of the facility. In cases of legally-mandated transfers or release, facilities should consult with the Regional Medical Director for guidance.

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND INFECTION CONTROL MEASURES

The following guidelines should be followed while patients are in **QUARANTINE** or **MEDICAL ISOLATION** for poliovirus infection:

- Post a **CONTACT ENTERIC PRECAUTION** sign on the door of the **MEDICAL ISOLATION** or **QUARANTINE** cell. For cells where **AEROSOL GENERATING PROCEDURES** (AGPs) are taking place, post a **CONTACT ENTERIC/DROPLET PRECAUTION** sign on the door.
  - ➔ *Refer to Appendix 1 and Appendix 2 for examples of signs.*
  - ➔ *Refer to Appendix 3. Aerosol Generating Procedures (AGPs) for guidance on the use of nebulizers, CPAP/BiPAP, oxygen supplementation and pulmonary function tests for patients who are in poliovirus quarantine or medical isolation.*
- Refer to Table 1. Institution Operations below for guidance on mitigation measures to reduce the spread of poliovirus in institutions with confirmed or suspected poliovirus infection.
- For **MEDICAL ISOLATION**: Patients should wear a surgical mask when outside their room before their medical isolation period has ended and when any other individuals enter the room.
- Institutions should post signage throughout the facility to remind all individuals to perform hand hygiene using soap and water and other infection control measures regularly.

TABLE 1. INSTITUTION OPERATIONS

	QUARANTINE/ISOLATION	GENERAL POPULATION
CLEANING AND DISINFECTION	• Use an EPA-registered disinfectant with an *Emerging Viral Pathogens* claim, which may be found on EPA's *Lists Q and O*. Follow the manufacturer's directions for concentration, contact time, and care and handling. • Wear disposable gloves and a gown. Perform hand hygiene after removing gloves.	• In institutions with confirmed or suspected poliovirus infection: ○ The frequency of cleaning for communal areas and high touch surfaces (e.g., chapel, meeting rooms, recreation equipment) should be increased. ○ Individuals should be reminded to wash hands frequently with soap and water (not hand rub), particularly after using the toilet and prior to eating.
TRASH	• Routine practice – no additional PPE required.	Normal operations
LAUNDRY	• Laundry can be washed with another inmates' laundry using regular detergent and warm water. • Persons handling laundry should wear a gown and disposable gloves. Perform hand hygiene after removing gloves. • Clean and disinfect dirty clothes bins after use.	Normal operations

(Table continues on next page)

	QUARANTINE/ISOLATION	GENERAL POPULATION
FOOD SERVICE	• Food Service should use disposable clamshells. • No additional PPE required for food service workers.	Normal operations
BARBER/ BEAUTY SHOP	• All patients in Quarantine or Medical Isolation will not receive these services.	Normal operations
EDUCATION, PSYCHOLOGY, RELIGIOUS SERVICES, LEGAL VISITS	• All patients in Quarantine or Medical Isolation will not routinely receive these services in group settings. • Alternative means may be acceptable such as provision of educational and religious materials, door-to-door interaction, and use of phone or video for court-ordered legal visit.	
VISITATION	• All patients in Quarantine or Medical Isolation will not receive in-person visitation. Phone or video visits may be allowed in special circumstances.	
RECREATION	• All patients in Quarantine or Medical Isolation will not participate in group activities in recreation.	

9. CONTACT INVESTIGATION

A prompt contact investigation is indicated IMMEDIATELY whenever poliovirus infection is diagnosed.

DEFINING AND DETERMINING CLOSE CONTACTS

CLOSE CONTACTS include cellmates and other persons who shared toilet facilities with the patient during the past 6 weeks. **It is critically important to identify all contacts.**

- Visit the housing unit and interview individuals to identify all possible contacts.
- Conduct an **ENVIRONMENTAL ASSESSMENT** of the quarters of the poliovirus case and contacts, to **include investigation of any breakdown in human waste or sewage disposal**, by visiting the cell or dormitory where the patient is housed:
  - **DORMITORIES**: Identify ALL inmates who shared toilet facilities with the patient and consider them as contacts.
  - **CELLS**: Cellmates are ALWAYS considered contacts.

MANAGEMENT OF CLOSE CONTACTS

➔ *The Regional and Central Office Infection Prevention & Control consultants and local and state public health authorities should be consulted regarding poliovirus outbreak management.*

- **Determine further exposure risk stratification** based on the contact investigation and consultations with local or state health department officials, Regional and Central Office Infection Prevention and Control consultants.
- **For those assessed to be at risk:**
  - Evaluate vaccination status (i.e., vaccinated, unvaccinated, partially vaccinated, vaccination status unknown)**.**
  - Draw acute serum specimens for poliovirus serology.
  - Administer inactivated polio vaccine (IPV) according to the individual's risk and vaccination status. Consult the Institution Clinical Director (for patients) or contact Occupational Health and Safety (for staff) to determine the vaccination schedule.
  - Place in **EXPOSURE QUARANTINE.**
- **For those placed in exposure quarantine, perform daily monitoring for influenza-like illness** (e.g., fever ≥ 100.4°F, headache, sore throat, fever, nausea, vomiting, malaise, and fatigue) **and central nervous system involvement** (e.g., neck stiffness, headache, fever, vomiting, and weakness or paralysis in the arms or legs) **through 21 days** after last exposure to the case-patient.
  - Place on MEDICAL HOLD (SENTRY/BEMR) for the duration of the quarantine period.
  - Add ICD-10 Code Z20.89: Contact with and (suspected) exposure to other communicable diseases. Add free text: Poliovirus in BEMR until lab confirmed diagnosis or cessation of quarantine.
  - Post the **CONTACT PRECAUTIONS** sign on the door of the **QUARANTINE** cell, or if utilizing cohorting, post at the entrance to the unit.

    ➔ *See Appendix 1 for an example of a sign.*
  - If suspicious signs or symptoms develop, move the patient into **MEDICAL ISOLATION** (separate from those diagnosed with poliovirus) until poliovirus infection has been diagnosed or ruled out. If poliovirus infection is diagnosed, those quarantined with the patient start a new 21-day quarantine period. For those diagnosed with poliovirus infection:
    - Add ICD-10 code A809 Acute Poliomyelitis
    - Add ICD-10 code G14 Post-polio syndrome
  - If at 21 days no symptoms develop, draw convalescent titers for polio serology and collect 2 stool specimens at least 24 hours apart using the Enterovirus RNA, qualitative real time PCR test. If all test results are negative, the contact may be released from quarantine.

- The **POLIOVIRUS INFECTION PREVENTION AND CONTROL (IP&C) MEASURES CHECKLIST should be carefully planned and fully implemented** as described in *Appendix 4.*
- **Assess patient's exposure risk in collaboration with** the local or state health department, Regional and Central Office Infection Prevention and Control consultants.
- **When a case of poliovirus infection has been identified, heightened surveillance for early detection of new cases is crucial.** It may be necessary to conduct interviews and visual inspections of large groups of potential inmate contacts.
- **LONG-TERM SURVEILLANCE for poliovirus infection following an identified case is imperative for the eradication of poliovirus from an institution.** For at least 6 weeks following the last poliovirus case, clinicians should remain alert for signs and symptoms of poliovirus and utilize a low threshold of suspicion.

10. VACCINATION

Inactivated polio vaccine (IPV) is the only polio vaccine that has been given in the United States since 2000. It is highly effective in producing immunity to poliovirus and protection from paralytic poliomyelitis since it prevents wild poliovirus from reaching the central nervous system in recipients. At least 99% of recipients are immune after 3 doses. Duration of immunity is not known with certainty, although it is probably lifelong.

While children in the United States routinely receive polio vaccination, polio vaccination is recommended for adults who are unvaccinated, are incompletely vaccinated, or who are at greater risk for exposure to polioviruses, including international travelers, laboratory workers, healthcare workers treating patients who could have polio or have close contact with a person who could be infected with poliovirus, and those who are in contact with or caring for a person who could be infected with polio or has been exposed to polio. Recommendations for poliovirus vaccination for adults will depend on previous records of polio vaccination and the time available before protection is required.

Adults who may have received poliovirus vaccination outside the Unites States should meet the United States recommendation for polio vaccination that includes protection against all three poliovirus types. Those with no or questionable documentation of poliovirus vaccination should be revaccinated according to the United States schedule with the age-appropriate IPV.

Institution providers should refer to their Regional and Central Office IP&Cs and Medical Directors, and local or state health departments to discuss the potential use of vaccinations in their institution during an outbreak.

➔ *Refer to https://www.cdc.gov/vaccines/vpd/polio/hcp/index.html for more information regarding poliovirus vaccination.*

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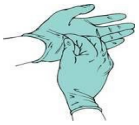
APPENDIX 1. MEDICAL ISOLATION AND QUARANTINE SIGNAGE

The following **CONTACT ENTERIC PRECAUTION** signage in English and Spanish, can be copied (in color or black and white) for use in the facility. Signage should be posted on the door of room(s) or units(s), if utilizing cohorting, where patients with diagnosed or suspected poliovirus infection are isolated or close contacts are quarantined. Lamination is recommended, if feasible.

Contact Enteric Precautions

PRECAUCIONES de aislameiento médico

ANYONE ENTERING THIS ROOM SHOULD USE:
todas las peronas que entren e esta habitacion tienen que:

	**HAND HYGIENE** ***Hygiene De Las Manos***
	**GOWN** ***Bata***
	**GLOVES** ***Guantes***
	**PATIENT WEARS WELL-FITTING DISPOSABLE MASK WHEN OTHERS ENTER ROOM AND DURING MOVEMENT.** ***EL PACIENTE USA UNA MÁSCARA DESECHABLE BIEN AJUSTADA CUANDO OTROS ENTRAN EN LA HABITACIÓN Y DURANTE EL MOVIMIENTO.***
	**KEEP DOOR CLOSED AT ALL TIMES!** ***Mantenga la puerta cerrada en todo momento***

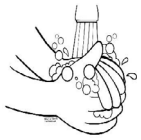
APPENDIX 2. CONTACT AND DROPLET SIGNAGE FOR AEROSOL-GENERATING PROCEDURES (AGPS)

The following **CONTACT ENTERIC/DROPLET PRECAUTION** signage in English and Spanish, can be copied (in color or black and white) for use in the facility. Signage should be posted on the door of the room(s), where patients who require aerosol-generating procedures (AGPS) are housed and who are diagnosed or suspected to have poliovirus infection (i.e., are in medical isolation) or are close contacts of an identified case of poliovirus infection (i.e., are in exposure quarantine). Lamination is recommended, if feasible.

Contact Enteric/Droplet Precautions

PRECAUCIONES de aislameiento médico

ANYONE ENTERING THIS ROOM SHOULD USE:
todas las peronas que entren e esta habitacion tienen que:

	**HAND HYGIENE** ***Hygiene De Las Manos***
	**GOWN** ***Bata***
	**GLOVES** ***Guantes***
	**PATIENT WEARS WELL-FITTING DISPOSABLE MASK WHEN OTHERS ENTER ROOM AND DURING MOVEMENT.** ***EL PACIENTE USA UNA MÁSCARA DESECHABLE BIEN AJUSTADA CUANDO OTROS ENTRAN EN LA HABITACIÓN Y DURANTE EL MOVIMIENTO.***
	**KEEP DOOR CLOSED AT ALL TIMES!** ***Mantenga la puerta cerrada en todo momento***

APPENDIX 3. POLIOVIRUS AEROSOL-GENERATING PROCEDURES (AGPS) GUIDANCE

Institutions should minimize, to the greatest extent possible, the use of AGPs to mitigate the risk of poliovirus transmission for all patients who are in either poliovirus quarantine or medical isolation.

Among the AGPs that may be utilized within a BOP institution are nebulizer treatments, continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), oxygen supplementation, and pulmonary function testing (PFT).

NEBULIZER TREATMENTS

To the greatest extent possible, the use of a metered dose inhaler (MDI) should be used instead of a nebulizer. Even in the acute setting, the use of an MDI with a spacer has been shown to be at least as effective as a nebulizer when used correctly. It may be necessary to use more doses per event, or more frequent dosing than the baseline prescription for the medication.

If a nebulizer MUST be used:

- Administer the treatment in an airborne infection isolation (AII) room when possible. If an AII room is not available, use a single room with solid walls and a solid door.
- Attach an in-line viral filter (e.g., Airlife 001851) at the end of the 6-inch flex tube that extends from the nebulizer kit.
- Minimize the number of staff involved in administering the nebulizer, and the amount of time the staff spends in the room.
- When in the room, staff should use appropriate PPE (refer to **BOP Poliovirus Guidance for Personal Protective Equipment** on the BOP intranet poliovirus web page).
- The room and equipment must be disinfected when finished (refer to *Section 8. Prevention and Control* for guidance on cleaning and disinfection).

CPAP/BIPAP

Most patients who use a CPAP machine do so for sleep apnea. In some cases, and for a short period of time during active infection, it may be reasonable to consider if the risks of aerosolization (leading to transmission) outweigh the risks of the short-term discontinuation of CPAP use during the medical isolation or quarantine period; this is a clinical decision, and as such at the discretion of the Clinical Director or designee.

MILD TO MODERATE SLEEP APNEA

In cases where CPAP is used for mild to moderate sleep apnea with no significant co-morbidities, it may be reasonable to interrupt CPAP during medical isolation or quarantine to minimize transmission.

SEVERE SLEEP APNEA WITH CO-MORBIDITIES

In patients with severe sleep apnea with co-morbidities—such as morbid obesity, pulmonary hypertension, cardiomyopathy, etc.—even the temporary discontinuation of BiPAP or CPAP may constitute a higher risk. When the decision is made to allow the patient to continue using CPAP/BiPAP, the following procedures should be considered to mitigate the spread of poliovirus:

- It is preferable that CPAP wearers be single-celled in a room with solid walls and a solid door that closes. Psychology Services staff should be consulted any time a patient is being considered for placement in a single cell, to ascertain whether the patient is considered high risk for suicide or has any mental health condition to preclude him/her from single-cell placement.
- The door should be closed when BiPAP or CPAP is in use.
- When in the room, and CPAP/BiPAP are in use, staff should use appropriate PPE. (Refer to *Appendix 5: BOP Poliovirus Guidance for Personal Protective Equipment* for proper use of PPE.)
- A Contact Enteric/Droplet Precautions sign (see *Appendix 2*) should be posted on the door to alert staff to the PPE required for entering the room.
- Minimize the number of staff and the amount of time spent in rooms when CPAP/BiPAP are in use.
- Room and equipment must be disinfected prior to a new patient occupying a room previously used by a CPAP/BiPAP user.
- If single cells are limited, prioritize use of these rooms to patients in quarantine or medical isolation.
- Cohort CPAP/BiPAP wearers to one area of a unit in a lower bunk.
- House CPAP/BiPAP wearers maximally distanced from others.

SET-UP AND USE OF CPAP/BIPAP

- If possible, CPAP/BiPAP should be set up and used with a full-face, non-vented CPAP mask with an in-line viral filter attached to the intake and exhalation ports. The viral filters should be changed daily.
  ➔ *See diagram at the end of this appendix for installation of an in-line viral filter attachment.*
- There will be cases when the above set up is not available or tolerated by the patient. When this occurs the Clinical Director or designee will decide what is in the best interest of the patient and utilize their clinical judgement in mitigating the aerosolization accordingly.

SUPPLEMENTAL OXYGEN

- Within BOP institutions, the use of supplemental oxygen is typically LOW FLOW via the use of nasal cannula. This is NOT considered to be an AGP and should NOT require specific precautions.
- Use of HIGH FLOW OXYGEN, HUMIDIFIED TRACH MASKS, or NON-REBREATHERS do involve AGPs and their use should be performed with the same precautions and measures described above for CPAP/ BiPAP use.

PULMONARY FUNCTION TESTING (PFT) AND PEAK FLOWS

- The performance of PFTs and peak flow testing for a patient with symptoms or confirmed poliovirus should be done at the discretion of the medical provider.

SWITCHING TO A NON-VENTED FULL-FACE MASK FOR CPAP AND BIPAP

A full-face mask for CPAP and BiPAP (ResMed Non-vented full-face mask – Small #61739, Med #61740, Lge #61741) covers mouth & nose and has no holes in the mask or elbow attachment on the mask

1. From the elbow on the mask, attach a **SWIVEL CONNECTOR** (Respironics #7041):

2. From there, attach a **VIRAL FILTER** (Airlife #001851):

3. From the viral filter, attach an **EXHALATION PORT** (Respironics #312149):

4. The remainder of the CPAP/BiPAP is unchanged.

APPENDIX 4. POLIOVIRUS INFECTION PREVENTION AND CONTROL (IP&C) MEASURES CHECKLIST

POLIOVIRUS INFECTION PREVENTION AND CONTROL (IP&C) MEASURES CHECKLIST	
PROACTIVE MEASURES FOR PREPAREDNESS: STANDARD PRECAUTIONS	
	Promote healthy habits that include regular hand washing with soap and water. **Alcohol-based hand rub does NOT kill poliovirus.**
	Emphasize cleaning of high-touch surfaces (e.g., doorknobs, handrails, keys, telephones, computer keyboards).
	Promote awareness of poliovirus infection among inmates and staff.
PROACTIVE MEASURES FOR PREPAREDNESS: INMATE SCREENING	
	All inmates should have a ***social and travel history reviewed*** as part of their medical intake screening process to determine whether they resided in, traveled to, or were in contact with someone who traveled to an area where polio is occurring (i.e., includes relevant travel in the United States and to foreign countries) ***within the last 21 days***. • If poliovirus infection is suspected, immediately place the affected person in medical isolation while a medical work-up is in-progress and until poliovirus infection has been ruled out and another diagnosis made. Refer to *Table 1. Institution Operations* for additional guidance.
POLIOVIRUS INFECTION MANAGEMENT: DIAGNOSED PATIENTS	
	Immediately place in medical isolation utilizing contact precautions with a dedicated sink and toilet.
	Staff to wear PPE according to the **BOP Poliovirus Guidance for Personal Protective Equipment** available in Appendix 5.
	Use ICD-10 Code Z20.89: Contact with and (suspected) exposure to other communicable diseases. Add free text: Poliovirus for symptomatic/suspected cases waiting confirmation. **Use ICD-10 Code A809 Acute Poliomyelitis for confirmed cases** during duration of illness.
	Perform daily temperature checks and medical assessments to monitor for any disease progression and provide symptomatic treatment as needed. If meningeal symptoms, weakness or paralysis occur, immediately transport to the emergency room for treatment.
	Pregnant patients who are diagnosed with poliovirus infection should be ***urgently scheduled for*** *a high-risk OB/GYN* ***OR immediately transported to*** *the emergency room for follow up and treatment.*
	Place on Medical Hold (SENTRY/BEMR) for the duration of the medical isolation period.
	Inform the local health department, Clinical Director, Regional QI/IP&C, and Regional Medical Director.
	Create a RIDS entry for the patient.
	Initiate a contact investigation.
	Cleaning and disinfection: • Perform disinfection using an EPA-registered disinfectant with an *Emerging Viral Pathogens* claim, which may be found on EPA's *List Q and O*. • Wear a gown and gloves.
	In rare circumstances when a patient must leave the isolation area, they must wear a well-fitting surgical mask over their nose and mouth during the first 2 weeks of illness or if asymptomatic, the first 2 weeks of diagnosis.
	Patients must remain in isolation for 6 weeks from time of symptom onset or if they have no symptoms, from time of diagnosis.
	Determine further exposure risk stratification based on the initial contact investigation and consultations with local or state health department officials, Regional and Central Office Infection Prevention and Control consultants. • **For those assessed to be at risk,** place in **Exposure Quarantine.**

Table continues on next page

POLIOVIRUS INFECTION PREVENTION AND CONTROL (IP&C) MEASURES CHECKLIST (CONTINUED)	
CONTACT INVESTIGATION: CLOSE CONTACTS*	
	For those close contacts in exposure quarantine**, perform daily monitoring for influenza-like illness** (e.g., fever ≥ 100.4°F, headache, sore throat, fever, nausea, vomiting, malaise, and fatigue) **and central nervous system involvement** (e.g., neck stiffness, headache, fever, vomiting, and weakness or paralysis in the arms or legs) through 21 days after last exposure to the case-patient. • Place on Medical Hold (SENTRY/BEMR) for the duration of the quarantine period. • **Add ICD-10 Code Z20.89: Contact with and (suspected) exposure to other communicable diseases. Add free text: Poliovirus** to BEMR for the duration of quarantine. If suspicious signs or symptoms develop, move the patient into medical isolation (separate from those diagnosed with poliovirus) until poliovirus infection has been diagnosed or ruled out. If poliovirus infection is diagnosed, those quarantined with the patient start a new 21-day quarantine period.
POLIOVIRUS INFECTION MANAGEMENT: MANAGEMENT OF CLOSE CONTACTS*	
	Transfer patient to Exposure Quarantine, if indicated, based on consultations.
	Evaluate vaccination status (i.e., vaccinated, unvaccinated, partially vaccinated, vaccination status unknown).
	Draw acute serum specimens for poliovirus serology.
	Administer inactivated polio vaccine (IPV) according to each individual's risk and vaccination status. Consult the Institution Clinical Director (for patients) or contact Occupational Health and Safety (for staff) to determine the vaccination schedule.
	Perform daily temperature and symptom checks.
	Use ICD-10 Code Z20.89: Contact with and (suspected) exposure to other communicable diseases. Add free text: Poliovirus for patients in quarantine.
POLIOVIRUS INFECTION MANAGEMENT: SPECIAL CONSIDERATIONS	
	If any new concerning symptoms develop, inform the Clinical Director, Regional QI/IP&C and Medical Director, and local health department.
	If a patient with suspected or diagnosed poliovirus infection is being escorted to the ER, the hospital should be alerted in advance, if possible. The patient must wear a well-fitting surgical mask over their nose and mouth. Escorting staff wear PPE according to the **BOP Poliovirus Guidance for Personal Protective Equipment** available in Appendix 5.
	If a patient diagnosed with poliovirus infection has not completed medical isolation and is due for full term release, the Regional QI/IPC, Regional Medical Director, and the local health department should be notified in advance to coordinate housing and care.
	Long term surveillance for poliovirus infection following an identified case is critical for the eradication of poliovirus from an institution. **For at least 6 weeks following the last poliovirus case:** • Clinicians should remain alert for signs and symptoms of poliovirus and utilize a low threshold of suspicion. • Waste water surveillance should be performed weekly to test for poliovirus.
***CLOSE CONTACTS** include cellmates and those who shared toilet facilities with the patient during the past 6 weeks.	

APPENDIX 5. BOP POLIOVIRUS GUIDANCE FOR PERSONAL PROTECTIVE EQUIPMENT

INDIVIDUAL WEARING PPE[1]		SURGICAL MASK	GLOVES[2]	GOWN/ COVERALLS[2]
INMATES				
Inmate patients housed in **QUARANTINE OR MEDICAL ISOLATION**		No PPE is necessary for source specific for poliovirus; however, if staff entering room, source is advised to wear surgical mask for potential source control.		
Orderlies performing cleaning in **QUARANTINE OR MEDICAL ISOLATION**			**X**	**X**
Laundry and food service workers handling items from **MEDICAL ISOLATION** or **QUARANTINE**			**X**	**X**
STAFF		**SURGICAL MASK**	**GLOVES**	**GOWN/ COVERALLS**
Staff performing non-contact **TEMPERATURE AND SYMPTOM CHECKS** in **QUARANTINE**			**X**	**X**
Staff having **DIRECT CONTACT** (including medical care, opening food trap door, entering room, escort or transport) with inmate patients in **QUARANTINE OR MEDICAL ISOLATION**			**X**	**X**
Staff in contact with inmate patients in medical isolation during transport or within same compartment space[1]	Inmate Patient	Wear surgical mask at all times outside of medical isolation area.		
	Staff		**X**	**X**
Staff present during **AEROSOL-GENERATING PROCEDURES/EQUIPMENT**, when poliovirus suspected[3]		**X**	**X**	**X**
Staff handling laundry or food service items from **MEDICAL ISOLATION** or **QUARANTINE**			**X**	**X**
Staff cleaning a poliovirus case area when infected inmate patient not present			**X**	**X**

[1] Staff who are pregnant or who could be pregnant are recommended not to be assigned to isolation or quarantine areas or transport.
[2] Wear gloves and gowns for patient care (with gloves changed and hand hygiene performed between patients).
[3] Wear a surgical mask for aerosol-generating procedures.