Infection Prevention and Control Policy in a Deployed Setting

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Supersedes: 19 June 2019	Version: CCOP-02: Version 2.0 with Appendices A-F
☐ Minor Changes	☒ Updated Document That Requires Thorough Reading
☒ Significant Changes	OPR: CCSG

Contents

1. PURPOSE

The purpose of this document is to disseminate policy and best practice approaches focused on the Infection Prevention and Control Program (IPCP), which is designed to identify, control, and prevent healthcare-associated infections during the provision of healthcare in all medical and dental healthcare facilities within the United States Central Command (USCENTCOM) area of responsibility. This document is meant to serve as a baseline policy discussion and familiarization reference document for use in adjunct with applicable Department of Defense (DoD) Issuances, Joint Trauma System (JTS) Guidelines, and other leading practice resources including those listed in the references section of this document. This document is not intended to replace IPCP pre-deployment training or other necessary professional experience/training. All USCENTCOM clinical operating protocols (CCOPs) are posted to the CCSG SharePoint site at the following link:
https://intelshare.intelink.gov/sites/ccsg/SitePages/CCSG-CLINOPS.aspx

2. APPLICABILITY

This CCOP applies to all USCENTCOM Service Components, Combined and other Joint Task Forces (CJTFs), and all U.S. military forces operating under Title 10 within the geographic area of responsibility (AOR) assigned or allocated to Commander, USCENTCOM, by approved Global Force Management (GFM) processes (e.g., Command Plan) and DoD civilian medical employees deploying with U.S. Forces (hereafter referred to as "DoD personnel") consistent with DoD and Service specific guidance. Specific applicability is to medical and non-medical personnel (e.g., registered nurse, enlisted medical personnel, physician, nurse practitioner, physician assistant, sanitation staff, patients, or facility visitors), assigned/attached, allocated to perform duties or receiving care at the Role 1, 2, and 3 medical and dental facilities that involve direct or indirect patient care.

3. REFERENCES

a. Centers for Disease Control and Prevention (CDC), *Guideline for Disinfection and Sterilization in Healthcare Facilities*, 2008. (Link)

b. CDC, *Infection Control*. (Link)

c. Association for Prevention in Infection Control and Epidemiology (APIC), APIC TEXT of Infection Control and Epidemiology.

d. Infection Prevention in Combat-Related Injuries (CPG ID: 24, update 08 Aug 2016), *Joint Trauma System Clinical Practice Guidelines (JTS CPGs)*.

e. Joint Trauma System Clinical Practice Guideline (JTS CPG), *Ventilator Associated Pneumonia* (update 17 July 2020).

f. Health.mil, *Medical Quality Assurance and Clinical Quality Management in the Military Health System* (DoDI/DoDM 6025.13, update 1 April 2020).

g. World Health Organization (WHO), *Guide to Implementation: A guide to the implementation of the WHO Multimodal Hand Hygiene Improvement Strategy*. (Link)

h. CDC National Institute for Occupational Safety and Health (NIOSH), *Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C*, 2016. (Link)

i. CDC, *Guidelines for Environmental Infection Control in Health-Care Facilities*, 2019 (updated). (Link)

j. Military Medicine, *Impact of Operational Theater on Combat and Noncombat Trauma-Related Infections* (Tribble et al., 2016).

4. RESPONSIBILITIES

a. USCENTCOM Command Surgeon (CCSG) establishes and maintains the USCENTCOM Infection Prevention and Control Program (IPCP) consistent with DoD directives, instructions, recommended best practices, and other applicable policy documents.

b. As applicable, Component and Joint Task Force Surgeon Cells, including Operation Freedom Sentinel (OFS), Operation Inherent Resolve (OIR), Operation Spartan Shield (OSS) who provides oversight to IPCP throughout the area of responsibility (AOR).

c. A Military Treatment Facility (MTF) Commander or equivalent senior-ranking personnel has overall authority for the IPCP in the unit/facility and is responsible for appointing an appropriate Infection Prevention Control Officer (IPCO) as early as possible prior to deployment.

d. The IPCO is responsible for implementing an effective IPCP in the facility; the following components are outlined in this document.

e. All health care workers (HCWs), including health-care providers (HCPs) and ancillary services assigned to medical and dental facilities are responsible for knowledge of and compliance with the facility's IPCP standard operating procedures (SOPs).

f. All HCWs are responsible for educating patients, family members, and other visitors on relevant infection prevention strategies (e.g., hand hygiene, isolation protocols, "cover your cough", and device- or procedure- specific guidelines).

5. BACKGROUND

Healthcare-Associated Infections (HAI) complicate combat related injuries increasing time to recovery or even worsening the case outcome. Infection with multidrug-resistant organisms (MDRO), including multidrug-resistant (MDR) *Acinetobacter*, *Klebsiella*, *Escherichia coli*, *Pseudomonas*, and *Staphylococcus aureus* has been identified as a major challenge associated with military deployments. According to a study in the Military Medicine journal, Tribble et al. (2016), the estimated 28-34% of combat-related injuries (CRIs) are complicated by some form of infection and 10-30% or more of those patients were colonized by various MDROs. MDRO infections are linked to poor infection prevention and control practices and inappropriate antibiotic usage. The US Military has demonstrated that adherence to best practices in infection control measures can decrease HAIs and MDROs.

6. IPCP COMPONENTS

This section provides IPCP components for effective use within a facility. Adherence to these components are expected at all times in routine operation.

a. Medical personnel should implement IPCP during mass casualty (MASCAL) and patient surge events, but should not diminish patient triage and care procedures.

b. Detailed discussion as necessary for each component based on policy, literature, and best practice is provided in the corresponding appendix for review and familiarization.

c. Hand Hygiene

Hand hygiene is the single most important practice in infection prevention and control. The following instructions provide best practices for hand hygiene.

(1) It is best to not reuse soap dispensers. If using reusable dispensers, thoroughly rinse and disinfect with a mild detergent then completely dry prior to refilling. These items should not be filled or "topped-off" in between washing/disinfection of the device to avoid mold growth and other contamination.

(2) Personnel will perform hand hygiene between each patient contact.

(3) Unless hands are visibly soiled with blood or other bodily fluids or taking care of patients with clostridium deficile, an alcohol-based hand rub is preferred over soap and water in most clinical situations. This is due to evidence of better compliance compared to soap and water. Hand rubs are generally less irritating to hands per the CDC Hand Hygiene Guidance.

(4) Hand-hygiene stations should be present, fully stocked, and unobstructed in all patient care areas within an established medical or dental facility. Hospital-grade alcohol-based hand scrub or hand rubs will be provided in intermediate locations throughout these facilities.

(5) Hand hygiene will be emphasized in daily activity by the IPCO and Command by ensuring strategic placement of hand hygiene amenities, adequate training, as well as routine reminders through signage and verbal notification of optimal hand hygiene practices.

(6) IPCO or designated personnel will perform hand hygiene prevalence at a minimum monthly in working areas (e.g., ED, wards, ICUOR to include anesthesia) with immediate feedback.

(7) Refer to Appendix B for recommended hand hygiene survey tools and further discussion of hand hygiene amenities and practice.

d. **Infection Prevention and Control Policy and Resources**

(1) The applicable JTF Surgeon's cell and MTFs will maintain AOR specific IPCP policy statements to ensure IPCP continuity, leading practice recommendations, and surveillance and reporting guidelines for all facilities in the AOR. Any applicable documents will be reviewed at least annually or as needed to ensure accuracy. Component Surgeon or JTF Surgeon Cell will provide applicable policy documents, surveillance and hazard reports to facilities in the AOR for reference.

(2) All facilities will maintain up to date (UTD) facility-specific IPCP SOPs based on current policy, best practices and site-specific IPC risk assessment. IPCP SOPs will be reviewed at least annually or as needed.

(3) Applicable reference material/resources and reach-back support point of contacts will be maintained up to date (UTD) and be made accessible to all HCPs for use in patient care.

(4) Outgoing units will provide incoming units with current IPCP SOPs, reference material/resources, and risk assessments as applicable to ensure IPCP continuity.

(5) Command and the IPCO will emphasize all aspects of an effective IPCP during daily activity and ensure compliance through metrics and monitoring procedures.

(6) Refer to Appendix A for additional discussion of specific IPCP policy and resources.

e. **Infection Prevention and Control Personnel Appointment**

(1) A dedicated IPCO will be appointed by the Command prior to the start of deployment. The Commander may appoint additional IPCP team members based on facility-specific mission requirements.

(2) The IPCO will attend the Training & Doctrine Command (TRADOC) "Infection Control in the Deployed Environment Course", or Service equivalent training within one year prior to the deployment departure date. IPCO unable to attend training will contact the service component Clinical Operations for training and or expectations.

(3) The IPCO will carry out IPCP activities based on risk assessment to include but not limited to the following:

- Review/update of the facility Infection Prevention Control Plan and supporting materials.
- Leading IPC risk assessment teams.
- Providing IPC initial, routine, and as-needed training.
- IPC emphasis in daily operations (e.g., directory signage, etc.).
- Surveillance of IPC compliance (e.g., Hand hygiene prevalence, HLD processes etc.).
- Monitoring and Reporting HAIs or bundle compliance if applicable.
- Participation and leadership in all IPC meetings and working groups.

(4) Refer to Appendix A for discussion of IPCO appointment and PCP personnel.

f. **Standard Precautions**

(1) All personnel will comply with standard precautions with all patient care encounters, regardless of the patient's infectious status.

(2) Standard precautions include but are not limited to hand hygiene and use of appropriate personal protective equipment (e.g., gloves, gowns, masks, and goggles or face shield), safe injection practices (e.g., 1 needle + 1 syringe + 1 patient = 0 infections) and respiratory/cough etiquette.

(3) Safe injection practices examples include:

- Use aseptic technique to avoid contamination of sterile injection equipment
- Do not reuse syringes for multiple patients
- Do not use bags of IV solution as a common source of supply for multiple patients

(4) Command and the IPCO will emphasize standard precautions throughout daily activity and ensure compliance through metrics and monitoring procedures with corrective actions.

(5) Patients suspected or confirmed to have an infectious disease that require isolation will be placed in one of three categories (droplet, contact, airborne or a combination) using the CDC guidance (Appendix A).

(6) Refer to Appendix B for additional discussion of standard precaution.

g. **Transmission-Based Precautions and Isolation**

(1) Separation or cohorting of patients based on patient characteristics and transmission capability of suspected or confirmed infections should be incorporated into all IPC SOPs.

(2) Separate (cohort) those patients only staying for hours from those expected to remain in facility for days to mitigate transmission of MDROs.

(3) Ensure cohorting of short-term vs long-term patients (i.e., local nationals). This is due to differences in colonization patterns between local nationals and US/coalition patients.

(4) Patients with suspected or diagnosed infectious disease should be separated based on the transmission capability of the suspect or confirmed agent.

(5) Patients under specific transmission-based precautions should be clearly marked in the patient record, through appropriate signage or on treatment charts/boards.

(6) Patients' status under specific transmission-based precaution should be verbally briefed in daily rounds, prior to patient transport and evacuation, and any other patient hand-off situation.

(7) Refer to Appendix C for greater detail of specific transmission-based precautions.

7. Prevention of Healthcare-Associated Infections associated with invasive procedures (HAIs)

a. Current literature supports that implementation of evidence–based interventions can prevent the occurrence of health care–associated infections (HAIs). Adhere to the most current national guidelines when possible to prevent HAIs (e.g., central line associated blood stream infections, ventilator associated pneumonia, catheter associated urinary tract infections, surgical site infection prevention, and additional policies related to infection prevention and control).

b. Nursing personnel and providers have a responsibility to educate the patient and or their family members on relevant infection prevention strategies (e.g., hand hygiene, central line infection prevention, surgical site infection prevention, purpose of isolation, cover your cough).

c. The IPCO should conduct HAI surveillance and process review of measures (e.g., bundle compliance) when feasible. The occurrence is reported at the IPC committee/clinical operations channels on a routine basis. Report unusual events immediately to the Commander (e.g., outbreak, unusual pathogen).

d. Refer to Appendix D for greater detail of commonly encountered high-risk HAI cases.

8. Blood Borne Pathogens Exposure Plan

a. All facilities will establish appropriate bloodborne pathogens exposure policy, training, and personal protective equipment (PPE) to protect against splash exposures, needle stick injuries, and any other potential sources of bloodborne pathogens (BBP).

b. All facilities will implement monitoring and reporting procedures to ensure all potential BBP exposures are rapidly detected and responded to with appropriate post- exposure prophylaxis (PEP).

c. Facilities will establish a Needle Stick program for reporting and tracking sharps-related injuries.

d. Detailed discussion of bloodborne pathogen exposure plans may be found in Appendix E.

9. Environmental Cleaning

a. Environmental cleaning will be conducted as needed to eliminate contamination or prevent dust accumulation. At minimum low-level disinfection of non-critical equipment, environmental surfaces, and change of linens will be conducted between patient-use and as needed to eliminate residues from bodily fluids and dust.

b. All non-critical equipment should be cleaned and maintained according to manufacturer instructions. In the absence of manufacturer cleaning instructions, EPA- registered hospital disinfectant/detergents should be used to clean non-critical equipment and environmental surfaces in a one- or two-step cleaning process as appropriate.

c. Do not use high-level disinfectants for disinfection of non-critical equipment or environmental surfaces.

d. High-level disinfection and sterilization of patient care equipment:

1. Critical patient care instrumentation and equipment (e.g., surgical instrumentation, ultrasound probes used in sterile body cavities) that are not single-use should be sterilized between patients according to manufacturer guidance and best practice recommendations.

2. Semi-critical items that are not single-use and contact non-intact skin and or mucous membranes which includes the nasal air way require high-level disinfection (HLD) or sterilization between patients. These include respiratory therapy and anesthesia equipment, endoscopes, laryngoscope blades, esophageal manometer probes, vaginal ultrasound probes, and cystoscopes.

(a) If a semi-critical item is heat-stable it should be sterilized in the same manner as critical patient care items (e.g., laryngoscope blades and vaginal speculums).

(b) If heat sterilization is inappropriate for the item, HLD should be completed using FDA-approved chemical disinfectants (e.g., OPA and Glutaraldehyde) and according to item manufacturer guidelines.

3. Any new item that may need HLD or sterilization or any change in process will be brought to the IPC team for review of IFU to determine if cleaning standards can be met.

10. Antimicrobial Stewardship Programs

a. All facilities responsible for trauma care will monitor adherence to antimicrobial prophylaxis regimens as listed in the JTS guidelines for infection prevention after combat- related injuries and present rates to providers regularly. Rates should include adherence to recommended agents and duration of therapy.

b. This program requires a medical director as lead, preferably an infectious disease provider, and a clinical pharmacist.

c. All facilities will avoid the unnecessary empiric use of broad spectrum antibiotics. Where possible, facilities should use a local antibiogram to guide empiric therapy (when available), and limit duration of antibiotic therapy.

d. Facilities that house patients >72 hours must have a designated antimicrobial usage leader that will be responsible for implementing and monitoring the antimicrobial stewardship program.

e. The IPCO should share findings of the IPC risk assessment with the antimicrobial usage leader and coordinate strategies for any MDROs outbreaks.

f. Additional antimicrobial stewardship measures can be developed at Role 3 facilities, including empirical antibiotic selection for specific clinical scenarios, and should be available based on microbiological data (such as regularly updated antibiograms) as available. Proposed antimicrobial stewardship measures should be discussed with an antimicrobial stewardship expert.

11. Signature Approval.

The proponent for CCOP-02 is the USCENTCOM Command Surgeon.

//SIGNED//
JEFFREY W. TIMBY
CAPT, MC, USN
Command Surgeon

APPENDIX A: IPC Policy, Resources and Personnel

1. IPC Risk Assessments

Infection prevention and control risk assessments (IPCRA) are used to formally quantify current or future infection-risk challenges at a facility and to inform the development of a facility-specific infection prevention control plan.

a. The incoming unit will conduct an IPCRA at least once during a deployment, but they may conducted more based on mission scope, patient volumes, occurrence of HAIs, or other recognizable challenges to effectiveness of the facility IPCP (e.g., construction projects, equipment acquisition, mass casualty events high level disinfection).

b. The IPCO and a multidisciplinary team including possible representative HCPs, unit safety officers, as well as personnel from logistics and facilities will conduct IPCRAs. Command staff representatives may be included as well for oversight and transparency.

c. The following are a list of focus points the IPC team should review:

(1) Existing IPC policy and procedure documents and compliance.

(2) Current level of training facility staff awareness and training.

(3) Structural elements that promote or hinder effective IPC implementation.

(4) Equipment, instrumentation, and IPC specific procedures.

(5) Any proposed changes and recommendations to the current IPCP.

d. Command emphasis of the facility IPCP in daily activities should be a priority and can be accomplished through a number of media and initiatives.

(1) Inclusion of IPCP related incidents (e.g., HAIs, needle stick injuries, BBP exposure, and HAI MDRO infections) in the IPC committee, as well as inclusion of metrics in staff meetings and reporting materials promotes transparency and awareness of the IPCP.

(2) Strategically placed signage and graphics should be allowed in the facility to promote IPC components in daily activities, designating precautions, and for visitor information.

(3) Initial, routine, and as-needed IPC training will be provided by the IPCO or facility leadership for all HCWs to increase awareness of facility-specific IPC policy and procedures.

2. IPC Resources

a. IPC resources, including facility SOPs and policy statements, online and literature reference, and other applicable resources should be maintained UTD and made readily available to all HCWs.

b. The following selection of resources is a representative sample of possible materials to reference during facility SOP and policy statement updates. Additional resources may be compiled within the CCSG SharePoint in the future as part of an IPC toolkit folder.

(1) Infection Control. Centers for Disease Control and Prevention. (Link)

(2) Centers for Disease Control and Prevention (CDC). (2008). Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. (Link)

(3) Association for Prevention in Infection Control and Epidemiology (APIC) TEXT of Infection Control and Epidemiology (Link). (*NOTE:* This material is password protected and requires

an account). Information for accessing APIC text can be found in the Army Share Point under resource links.

(4) Infection Prevention and Control Portal. The Joint Commission. (Link)

(5) Infection Prevention Share Point. Army Medicine Portal. (Link)

(6) Infection Prevention in Combat-Related Injuries (CPG ID: 24, update 08 Aug 2016) Joint Trauma System Clinical Practice Guidelines (JTS CPGs).

(7) Medical Quality Assurance and Clinical Quality Management in the Military Health System. (DoDI/DoDM 6025.13, update 02 Oct 2013).

(8) CDC National Institute for Occupational Safety and Health (NIOSH). Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C, 2016. (Link)

(9) Guidelines for Environmental Infection Control in Health-Care Facilities. CDC, 2019 (updated). (Link)

(10) Sterile Processing Department (TC 8-38, update July 2016). (Link)

(11) Infection Prevention and Control in Deployed Military Medical Treatment Facilities. Hospenthal, Green, Crouch, English, Pool, Yun, Murray. Journal of Trauma Injury, Infection, and Critical Care (2011).

(12) Response to Infection Control Challenges in the Deployed Setting: Operations Iraqi and Enduring Freedom. Hospenthal, Crouch, English, Leach, Pool, Conger, Whitman, Wortmann, Murray, Cordts, and Gamble. Journal of Trauma Injury, Infection, and Critical Care (2010).

c. IPCP reach-back and consultation resources will also be maintained UTD and available for all HCPs and facility staff for consultation and mentorship regarding HAIs and other IPCP competencies or concerns.

(1) Health Experts Online Portal (HELP) (Link) – Provides infectious disease teleconsultation service for routine cases (consult response is <24h).ADVISOR Hotline (1-833-238-7756 or DSN 312-429-9089) – Consultation resource for urgent infectious disease cases requiring immediate response.

(2) Infection Control Subject Matter Expert Consultants – Alternative resource available for reach-back regarding infection control inquiries.

(a) IPC Consultant Group Email: ic.consult.army@us.army.mil

(b) For virtual assistance Email or call hotline:

- usarmy.jbsa.medcom.list.medcom-vitalt@mail.mil
- 24-hour VITAL-T hotline: (210) 307-0923

(3) USCENTCOM Infection Control Work Group Teleconferences – Monthly discussion, mentorship, and accountability meetings for infection control topics, issues, and concerns.

3. Additional IPCP resources, toolkit items updated reach-back items will be posted and updated on the CCSG SharePoint site at https://intelshare.intelink.gov/sites/ccsg/SitePages/CCSG-CLINOPS.aspx

4. IPC Personnel

a. A facility IPCO will be appointed prior to deployment into the USCENTCOM AOR.

(1) This appointment should be recorded in a written memorandum or orders document for reporting and posting purposes.

(2) This appointment may be primary or collateral duty dependent upon facility requirements and Command discretion.

(3) A multidisciplinary team or working group may be required dependent on scope of mission or facility-specific requirements, or Command discretion.

(4) The appointment should be made well in advance of expected start of deployment to ensure maximum time for IPCO or IPCP team leads to attend necessary training and credentialing.

b. The IPCO must complete the TRADOC "Infection Control in the Deployed Setting Course" approved formal IPCO training requirement within one year prior to deployment.

(1) Exemptions to this policy may be granted if the designated personnel can provide applicable educational, training or professional experience/certification to warrant level of proficiency required to carry out the unit IPCP.

(2) Individuals already holding an applicable degree in infection control or advanced credentialing – Certification in Infection Prevention and Control (CIC) may be considered for exemption from the TRADOC course.

(3) Any exemption should be documented in writing by the unit Command and should cite the applicable credentialing. Applicable credentialing or copies should be maintained at the facility in hard-copy or digital format.

(4) Exempt personnel are strongly encouraged to attend the TRADOC course for the military specific guidelines and discussion, as well as lessons learned for IPCOs in a deployed setting.

APPENDIX B: Standard Precautions

1. Hand Hygiene

a. Hand hygiene prevalence should be surveyed monthly in working areas (e.g., Emergency Department, Patient Wards, ICU, and OR personnel that includes anesthesia , circulators, surgeons and all other personnel) to observe level of compliance with hand hygiene policies and procedures.

(1) The IPCO or designated staff should observe HCWs in their daily activities and patient interactions for a specified time period.

(2) A simple prevalence formula is sufficient to report hand hygiene compliance.

b. Number of observed opportunities/Number of total opportunities = hand hygiene prevalence.

c. On the spot corrections are made as appropriate.

2. Respiratory/Cough Etiquette

a. Respiratory etiquette are simple precautions intended to limit the spread of infectious organisms through respiratory droplet transmission from either those with disease or undiagnosed.

b. Respiratory droplets are limited by sneezing or coughing into the arm at the bend of the elbow or tissue for sudden instances.

c. Individuals with respiratory signs/symptoms should be encouraged to wear a surgical mask to limit droplet dispersal.

d. Individuals with respiratory symptoms are cohorted away from other patients, where possible.

(1) Patients with respiratory symptoms should be held in a separate waiting or holding area.

(2) HCPs, facility staff, and visitors with respiratory illness should avoid direct patient contact and wear a mask at all times in the facility.

e. All HCPs and facility staff should be educated on these measures, and are responsible for monitoring and educating visitors for compliance.

f. Informative signage should be placed that the entrance of the facility and throughout to encourage compliance of all facility occupants.

3. Personal Protective Equipment

a. Personal protective equipment (PPE) as defined by the Occupational Safety and Health Administration (OSHA) is, “specialized clothing or equipment, worn by an employee for protection against infectious materials.” PPE helps prevent the spread of infectious agents. This can protect people and health care workers from infections.

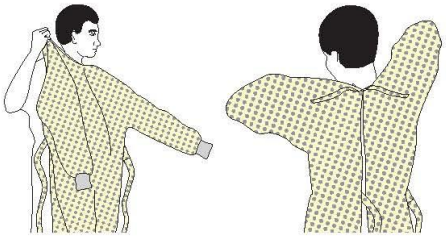
b. PPE components can be worn alone or in combination, and should be used in a scaled manner to ensure adequate protection in the current activity.

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist

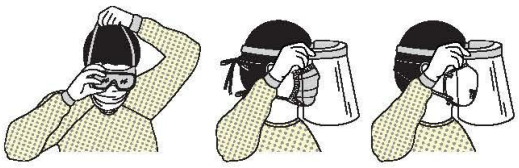


2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

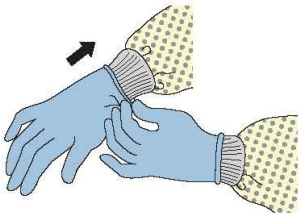
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

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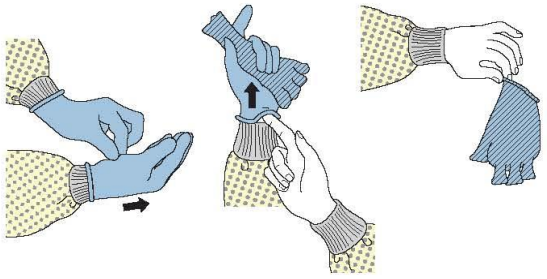
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

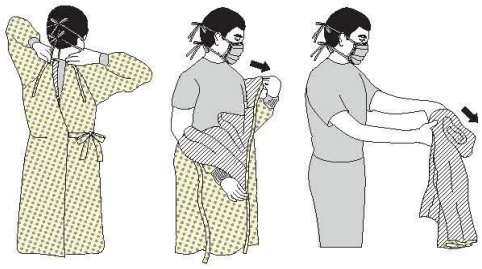


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. GOWN

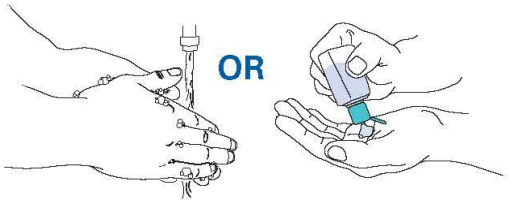
- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container

5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

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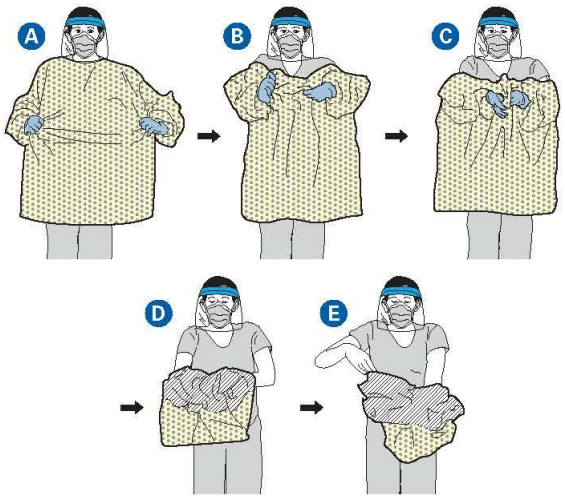
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container

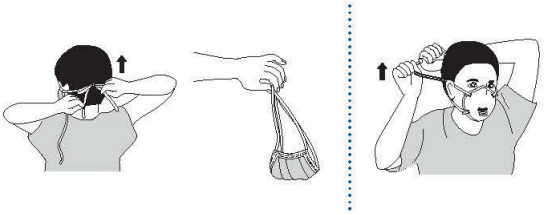


2. GOGGLES OR FACE SHIELD

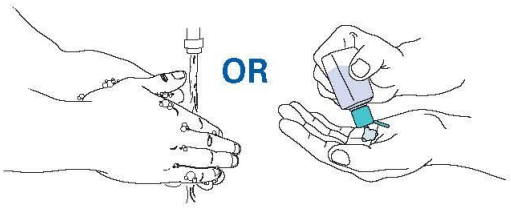
- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

CS250672-E

APPENDIX C: Transmission-Based Precautions and Isolation

Transmission-Based Precautions and Isolation		
Precautions for Deployed & Ambulatory Settings	**Patient Placement**	**Provider PPE**
Contact Precautions		
Standard Precautions for patients known to be infected or colonized with target MDROs. PPE enforced for contact with uncontrolled secretions, pressure ulcers, draining wounds, stool incontinence, and ostomy tubes and bags.	**BEST** – Private room **GOOD** – Separation from other patients by a minimum of 3-feet	**BEST** - disposable gown and gloves for all interactions that may involve contact with the patient or patient area. Changing PPE and hand hygiene between patients. **GOOD** – Gloves with removal and hand hygiene after each patient contact.
Droplet Precautions		
Isolated patient holding or waiting areas, and movement to examination or cubicle as soon as possible (ASAP). Instruct patient to follow respiratory etiquette procedures. PPE enforced when entering patient area. Once admitted a patient is not expected to wear a mask while in a hospital bed.	**BEST** – Private room **GOOD** – Cohort with other patients displaying similar symptoms. Spatial separation of at least 3 feet with curtain partition. If no curtains, increase separation to 6-10 feet with head-to-toe configuration.	**BEST** - Surgical mask worn by all when entering room, with patient compliance in respiratory etiquette. **GOOD** - Surgical mask worn within patient area.
Airborne Precautions		
The patient should be fully isolated from all other patient categories by physical barriers. Place a surgical mask on the patient and place him/her in an examination room ASAP and instruct them on respiratory etiquette. Once the patient leaves, the room will remain vacant for 75 minutes to allow for a full exchange of air if the room is not negative pressure. Once in a negative pressure room the mask may be removed. Ideally, these patients should not be admitted to facilities without a negative pressure rooms.	**BEST** – Private room with negative-air pressure, discharge of air outdoors or through high-efficiency filtration before recirculation. Door between this patient and other patient areas must remain shut. **GOOD** – Private room with a fan exhausting outward. The door to the room must remain shut. If no private rooms, place patient as far as possible away from others in a well ventilated room with a physical barrier around the patient. Make sure the patient is not near air intakes. Consider housing these patients in private quarters outside the hospital and examining them outside in the sunlight.	**BEST** - Wear of N95 respirator at all time when in patient room or immediate environment. Personnel should be fit tested using the brand/model N95 respirator used at the facility. **GOOD** – Wear of N95 respirator as above without fit testing. ***Note:*** Patient should wear surgical mask (not N95 respirator) during transport.

APPENDIX D: HAI Prevention

1. Leadership at all levels are accountable for ensuring safe, quality care is provided to patients. This includes all processes involved with HAI prevention.

2. Unit leadership is responsible for ensuring clinical staff on their unit or ward who are involved in the insertion, care, and maintenance of central venous catheters and urinary catheters are properly educated with an initial competency assessment and periodic re–education and assessment.

3. Every individual should be empowered to facilitate adherence to the HAI prevention components in alignment with the Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS™) framework.

Urinary Tract Infection Prevention

Indwelling Catheter Insertion and Maintenance†

1. Appropriate indications for indwelling catheters, based on evidence-based guidelines, include but are not limited to the following:

   a. Perioperative use for selected surgical procedures, such as urologic surgery.

   b. Large volume infusions or diuretics utilized during surgery.

   c. Hourly assessment of urine output in ICU patients.

   d. Management of acute urinary retention/obstruction.

   e. Promotion of healing of open pressure ulcers or skin grafts for select patients with urinary incontinence.

   f. Patient request to improve comfort during end–of–life care (as an exception).

2. Staff must practice appropriate hand hygiene (in alignment with CDC or World Health Organization (WHO) guidelines) and follow standard precautions at all times when providing care to patients with indwelling catheters.

3. Staff should use the most appropriate–sized catheter to maximize drainage and minimize urethral trauma.

4. Catheters must be inserted using aseptic technique with sterile equipment. Sterile equipment includes the following:

   a. Sterile gloves, drape, and sponges.

   b. Sterile antiseptic solution for cleaning the urethral meatus.

   c. Sterile single–use packet of lubricant jelly for insertion.

   d. Only inflate balloon once catheter is inserted to the hub, and urine flow is observed. Inflation of balloon without documentation of urine flow could lead to serious urethral trauma/injury.

5. After insertion, the following maintenance interventions should be implemented, at a minimum:

   a. Properly secure catheter to prevent movement.

b. Maintain a sterile, continuously closed draining system and ensure continual unobstructed urine flow.

c. Keep collection bag below the level of the bladder.

d. Empty collection bag regularly, ensuring outlet valve does not become contaminated throughout this process.

6. Employ routine daily hygiene as appropriate.

7. Cleaning the meatal area with antiseptic solutions is not necessary.

8. The catheter and collection system should be replaced using aseptic technique when breaks in aseptic technique, disconnection, or leakage occur.

9. Small-volume urine specimens may be obtained by inserting a sterile needle/syringe into a disinfected sampling port, and aspirating the urine.

10. Providers must conduct a daily review of the necessity of continuing catheter use for all patients with urinary catheters.

a. Many institutions have chosen to empower nurses to remove urinary catheters without a physician's order, however this can cause serious issues if not coordinated first with the primary physician or surgical team. If MTFs choose to adopt this practice, a specific policy must be written and coordinated with the medical staff. A sample removal algorithm is provided in Appendix A.

b. Patients must be appropriately monitored after urinary catheter removal.

6. Current literature supports avoidance of several approaches to CAUTI prevention. This includes, but is not limited to, the following:

c. Avoid routine catheter irrigation. If required, ensure aseptic technique.

d. Avoid changing catheters at fixed intervals.

e. Avoid routine use of antimicrobial/antiseptic–impregnated catheters.

f. Avoid screening for asymptomatic bacteriuria in catheterized patients.

g. Avoid treatment of asymptomatic bacteriuria in catheterized patients, except before invasive urologic procedures.

Staff Education, Training, and Competency

Indwelling catheters should only be inserted by designated, trained staff. MTF clinical leadership maintain the responsibility of ensuring designated staff are educated in catheter insertion and maintenance, alternatives to indwelling catheters, and importance of timely removal.

References

1. Gould, C. V., Umscheid, C. A., et al. (2019), *Guideline for Prevention of Catheter-Associated Urinary Tract Infections*. 61.

2. Magill, S. S., O'Leary, et al, (2018), Changes in Prevalence of Health Care–Associated Infections in U.S. Hospitals. *New England Journal of Medicine*, *379*(18), 1732–1744. https://doi.org/10.1056/NEJMoa1801550.

3. Lo, E., Nicolle, L. E., Coffin, et al (2014), Strategies to Prevent Catheter- Associated Urinary Tract Infections in Acute Care Hospitals: 2014 Update. *Infection Control & Hospital Epidemiology*, *35*(S2), S32–S47. https://doi.org/10.1017/S0899823X00193845.

Central Line Associated Infection Prevention Procedure

Training and Education

1. Central line-associated bloodstream infection (CLABSI) prevention education is required for all healthcare personnel involved in the insertion, care, and maintenance of CVCs, prior to performing these duties.

2. Staff are encouraged to review the CDC's CLABSI surveillance training resources, which can be accessed online at: https://www.cdc.gov/nhsn/acute-care-hospital/clabsi/index.html.

Requirements and Recommendations

Current literature supports adoption of the following evidence–based practices.[3]

1. Maximum sterile barrier precautions are to be used during CVC insertion.

   a. Providers placing lines and those assisting will don: a non-sterile cap which covers the hair completely, a mask which covers the mouth and nose, a sterile gown, and sterile gloves.

   b. The patient will be covered with a large sterile drape with a small opening for the site of insertion (head to toe), to ensure a sterile field is maintained and risk of infection is minimized.

2. Chlorhexidine gluconate with alcohol skin preparation (e.g., Chloraprep) is applied according to the manufacturer's guidelines for cleansing methodology and drying time.

3. Optimal catheter site selection is assessed based on the patient need with avoidance of using the femoral vein, when medically feasible, for central venous access in adult patients.

   a. The provider inserting the catheter should consider the risk/benefit of using the subclavian vein over the internal jugular vein or femoral vein.

   b. Use ultrasound guidance under sterile conditions (sterile ultrasound probe covers must be used) for internal jugular catheter insertion if available. The ultrasound equipment must be cleaned and disinfected according to the manufacturer's instructions after each procedure.

4. Providers must conduct a daily review of the necessity of all central lines, with prompt removal of unnecessary or infected catheters.

5. Catheter hubs, needleless connectors, and injection ports must be disinfected before accessing the catheter.

   a. Vigorous mechanical friction must be applied with an alcoholic chlorhexidine preparation, 70 percent alcohol, or povidone–iodine.

b. Minimum scrubbing time for disinfection should be performed in accordance with the manufacturer's guidelines, as recommendations may vary depending on if the facility uses antiseptic-containing hub/port protectors.

6. For non-tunneled CVCs, change the transparent dressing and perform site care with a chlorhexidine based antiseptic every 5-7 days or immediately if the dressing is soiled, loose, or damp. Change gauze dressings every two days or earlier if the dressing is soiled, loose, or damp.

7. All facilities should bathe ICU patients over two months of age daily with chlorhexidine gluconate (CHG) preparation or evidence–based equivalent product if not contraindicated (e.g., burn patient, allergies). Application of the CHG or evidence–based equivalent product if not contraindicated (e.g., burn patient, allergies). Application of the CHG bathing product is based upon manufacturer guidelines.

Central Line Insertion and CAUTI Sample Checklists


CAUTI Prevention Checklist.docx


CL insertion Checklist.docx


AF_Central_Line_Insertion_Checklist.pdf

References

1. Centers for Disease Control and Prevention (2019), *National Healthcare Safety Network (NHSN) Patient Safety Component Manual*, Retrieved from https://www.cdc.gov/nhsn/acute-care-hospital/index.html.

2. The Joint Commission, *National Patient Safety Goal (NPSG) 07.04.01 for Hospitals, and its Elements of Performance (EPs)*.

3. Marschall J, Mermel L, and Fakih M, et al. (2014), *Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals, Infection Control and Hospital Epidemiology*, 35(7):753-7.

4. O'Grady NP, et al. (2011), *Healthcare Infection Control Practices Advisory Committee (HICPAC) Guidelines for the prevention of intravascular catheter-related infections. Clinical Infectious Diseases*, 52(9): e162–193.

5. Yokoe D, Anderson D, and Berenholtz S, et al. (2014), *Introduction to "A Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals: 2014 Updates." Infection Control Hospital Epidemiology*, 35(5):455-459.

APPENDIX E: Blood-borne Pathogens Exposure Programs and Sharps Management

1. Blood-borne pathogens (BBP) exposure plans are designed to protect personnel and patients from exposure to pathogens including, but not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

2. All facilities will have a BBP exposure plan that includes an effective Hospital Employee Health Program (HEHP), sharps and other regulated medical waste management plans, and post-exposure reporting and intervention strategies.

3. HEHPs are designed to either prevent or detect infections of facility personnel by BBP.

a. All facilities must have a HEHP that addresses risks associated with BBP exposures.

b. HBV is the only available pre-exposure vaccination for the referenced BBPs, and is already implemented as a required vaccination for all military personnel prior to deployment (3-doses or more).

c. Exposure prone HCPs (e.g., phlebotomists, dentists, etc.) may require pre-exposure HBV serology indicating a protective concentration of anti-HBs (≥10 mIU/mL). HCPs with insufficient anti-body response may require re-vaccination.

d. Pre-exposure HIV screening is required, with a documented negative result prior to deployment for all personnel.

4. All personnel will wear appropriate PPE to prevent splash or contact exposure to bodily fluids (e.g., gloves, water resistant gowns, face shield, or goggles). A more detailed discussion is provided in Appendix B.

a. Personnel that have open wounds (e.g., cuts, abrasions, burns, etc.) that cannot be adequately protected by available PPE should be excluded from patient care until the injury is healed.

b. PPE or garments that have been penetrated by blood/bodily fluids must be removed and disposed of as appropriate as soon as possible.

c. Blood/bodily fluid contaminated PPE and garments will not be worn out of the work area.

d. Re-usable clothing articles should be treated as contaminated linen and laundered/sanitized as appropriate, unless otherwise indicated by the ICPO and/or HCP in charge of the case.

e. Contaminated single-use PPE items should be treated as biohazard waste and disposed of in accordance with regulated medical waste standards.

5. Mouth pipetting or suctioning was a past practice and not used today. However important to reiterate that this practice is prohibited due to the inability to ensure adequate protection from blood/bodily fluids.

6. Sharps Management Procedures

a. Where applicable safety devices should be made available to all personnel in practice of patient care.

b. The IPCO and/or applicable HCPs will routinely review the safety and utility of all devices used in facility for opportunities to implements safety devices.

c. The IPCO will monitor the compliance of HCPs in the safe use of sharps devices. If non- compliance is observed or injury noted, then ICPO and applicable Command/facility personnel should review the incident for corrective action (e.g., re-training of personnel, alternative safety devices, etc.).

d. Facilities will utilize only clearly visible and marked tamper resistant sharps disposal containers.

e. Sharps containers must be made readily available to HCPs utilizing a work area.

f. Sharps containers should be wall mounted or tip-resistant.

- Sharps containers should be placed in locations that are within reach of HCPs utilizing the work space, but are not obstructive or serve as a trip hazard.
- Sharps containers should not be blocked or obstructed by other devices or equipment.
- Containers will be replaced when 3/4 full.

g. Full sharps containers should be closed using the tamper resistant locking mechanism, and disposed of as regulated medical waste.

7. Post-exposure plans must ensure that exposed personnel receive rapid medical care and prophylaxis following any BBP exposure incident.

a. A facility-specific protocol will be in place for needle-stick injuries and other BBP exposures that documents expectations for reporting and documenting occurrence of these issues, as well as for post-exposure procedures and tracking of treatment for exposed personnel.

b. Incidents that constitute an exposure involve contamination by blood/bodily fluids via percutaneous injury (e.g., needle stick or cut), mucosal exposure, cutaneous exposure (e.g., non-intact skin or unprotected hands).

c. Exposed personnel cases will be reported as CCI and referred to the applicable local public health or preventive medicine entity responsible for reporting and tracking of communicable disease incidents.

d. Rapid test kits and other screening supplies will be made available to all facilities, either in-facility or through agreement with other locations. Screening and testing of exposed personnel will be conducted IAW with facility SOPs and current agent specific post-exposure guidelines.

(1) Post-exposure HBV testing should include antigen testing along with antibody detection tests (anti-HBs, anti-HBc). At a minimum, exposed personnel should receive anti- HBs testing to confirm presence of immunity (anti-HBs >10mIU/mL). The patient should be tested for presence of antigen.

(2) For HCV, exposed personnel should be tested for HCV antibody and antigen within 48 hours of exposure to rule out infection then retested at 6-months to rule out establishment of new infections.

(3) Post-exposure testing has limited utility for detecting virus or infection in the exposed personnel, but may be used to confirm or rule out infection in the patient.

(a).Nucleic acid testing can be confirm infection within 10-33 days post-exposure.

(b). Laboratory Antigen/Antibody testing of a venous blood sample can detect infection approximately 18-45 days following exposure.

(c). Rapid antibody tests can detect infection starting between 23 to 90 days post-exposure.

(d). Post-exposure prophylaxis (PEP) (chemical and vaccination) will be available to all facilities, either in-facility or through agreement with other facilities, and administered IAW facility SOPs and current agent specific post-exposure guidelines.

(e). The following recommendations are presented here for easy access, but should be verified as current standard of care for BBP exposures.

(4) For HBV, if the exposed personnel is previously vaccinated with 3 or more doses, the recommendation is as follows:

(a). If the exposed personnel has anti-HBs <10mIU/mL and the source patient is HBsAg-Positive, then the person should receive one (1) dose of HBV Immunoglobulin (HBIG) and be revaccinated as soon as possible. The person should complete the 3-dose series according to vaccination schedule with anti-HBs testing 1-2 months after the last dose of vaccine.

(b). If the exposed personnel is anti-HBs <10mIU/mL and the source patient is HBsAg-Negative, then the person should receive an additional HBV vaccine dose followed by repeat anti-HBs testing. If the person remains <10mIU/mL, then serial vaccination should be completed according to the recommended schedule.

(c). If the exposed personnel is anti-HBs >10mIU/mL at the time of exposure then no post-exposure management is required.

(d). HCPs should refer to current guidelines and reach-back support (Appendix A) for PEP recommendations for exposed personnel, who are unvaccinated, lack documentation of vaccination, or are partially vaccinated.

(5) There is little supporting evidence to endorse the prophylactic use of HCV interferon or anti-viral therapy in acute exposure cases. Exposed personnel should be tested according to the above recommendations, and treated per recommendation if chronic infection is detected.

(6) HIV PEP should be administered within 72 hours of suspected or confirmed exposure. The preferred HIV PEP regimen is Raltegravir (Isentress; RAL), 400mg PO twice daily PLUS Truvada, 1 PO once daily for 28 days.

(7) HCPs shall refer to current recommendations and reach-back resources (Appendix A) for verification of standard of care and alternative regimens.

(8) Resources for current recommendations for BBP exposure diagnostic and PEP regimens can be found at the following locations:

(a). Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Post Exposure Prophylaxis (https://www.jstor.org/stable/10.1086/672271#metadata_info_tab_contents)

(b). Recommended PEP for all the BBPs can be found though the CDC (https://www.cdc.gov/niosh/topics/bbp/guidelines.html).

(c). Any of the reach-back resources referenced in Appendix A may be contacted for support on any BBP or PEP issues.

(d). HCPs will inform exposed personnel of the recommended post-exposure procedures as soon as possible following the incident. General information regarding suspected or confirmed BBPs should be provided to the exposed personnel for educational purposes.

(e). Confirmed positive BBP infections and/or BBP exposure cases for which acceptable PEP cannot be obtained in theater must be considered for evacuation from theater for safety and receipt of best care.

8. All facility personnel and visitors (as applicable) will be trained and informed of the facility sharps and BBP procedures through training, policy posting, verbal communication, and signage.