

# **National Opportunity to Improve Infection Control in ESRD (NOTICE) ICWS/ICCL**

**Infection Control Worksheet  
Infection Control Checklists**

**AHRQ**

**HRET**

**ESRD Network 11**

**UM-KECC**

**DISCLAIMER: This checklist is being developed to support efforts to reduce infections in dialysis facilities. It is in a preliminary form that has not been endorsed by CMS or CDC. No inferences should be drawn from its contents about what CMS is or is not recommending or requiring of dialysis facilities to prevent infections. CMS regulations and CDC recommendations remain your best guidance on how to prevent infection among your patients. While CDC and CMS may endorse a later version of this checklist, it is currently being used to better understand how often checklist items are being adhered to and how easy it is for the checklist to be used. Information obtained using the checklist in dialysis facilities will guide efforts to make the final version of the checklist as helpful as possible. This version is dated November 21, 2011.**

# Infection Control Worksheet

**Facility Direct Care Infection Control Practices:** This document contains two variations on checklists addressing direct care activities which are high risk for transmission of infections in the dialysis setting:

- 1) an ICE (Infection Control Evaluator) checklist intended for use by facility audit staff; and
- 2) a "procedural" checklist intended for use by direct care staff at the dialysis station.

**Overview of Facility Infection Control Practices:**

1. Treatment Initiation
  - a. Accessing Central Venous Catheter
  - b. CVC Exit Site Care
  - c. Accessing Arterial Venous (AV) Fistula/Graft
2. Parenteral Medication Preparation and Administration
3. Treatment Termination
  - a. CVC Treatment Termination
  - b. AV fistula/Graft Termination and Site Care
4. Cleaning and Disinfection of the Dialysis Station
5. Dialysis Supply Management and Contamination Prevention

**Specific Policies/Practices Designed to reduce Patient Contact with Potential Pathogens:**

Hand Hygiene– When: before touching patient; before clean/aseptic procedure; after body fluid exposure; after touching patient; after touching patient surroundings/How: soap and water or alcohol-based hand rub if hands not visibly soiled: **Information Sheet #1**

Provide Sanitary Environment-maintenance of treatment-related areas; management of blood spills; handling of infectious waste; provision of hand washing equipment: **Information Sheet #2**

Prevention and Management of specific pathogen exposure- Surveillance, vaccination and management of hepatitis B; surveillance of hepatitis C; tuberculosis surveillance; Influenza and pneumococcal pneumonia vaccination: patient-specific pathogen management: **Information Sheet #2**

Quality Assessment and Performance Improvement (QAPI)- Recommended infection prevention and management components of QAPI: **Information Sheet #3**

Injection Safety/Safe Medication Handling –Guidelines that apply to the use of needles, cannulas that replace needles, and, where applicable, intravenous delivery systems: **Information Sheet #4**

# ICE Checklist #1a: Access of Central Venous Catheter (CVC) for Initiation of Dialysis



Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Assemble supplies for that patient at dialysis chair (no common tray/cart brought to dialysis station)</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Don clean gloves, gown, impermeable mask/eye protection or face shield</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Place clean field under CVC ports</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Scrub the exterior of the CVC hubs, with caps in place, with antiseptic (alcohol or povidone iodine or chlorhexidine)</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Remove port caps; wipe threads and top of uncapped hub with antiseptic, using friction, removing any residue/blood</b>  <b>Note: If using "needleless" catheter system and connector device caps are not removed, scrub the injection port of the connector device.</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Connect sterile syringes aseptically to each port to remove indwelling solutions and/or flush with sterile saline; initiate treatment; remove gloves</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

# ICE Checklist #1b: Central Venous Catheter (CVC) Exit Site Care



Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Assemble supplies for that patient at dialysis chair (no common tray/cart at station)</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Don clean gloves; gown, mask and eye protection; remove old dressing and discard; remove gloves</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Don clean gloves, cleanse area around CVC exit site with chlorhexidine unless there is a contraindication; allow to dry before applying dressing</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Apply antimicrobial ointment to exit site, unless there is a contraindication (e.g. patient hypersensitivity, bio-incompatibility with catheter material, or chlorhexidine impregnated sponge dressing is used)</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Sterile dressing applied to CVC exit site; remove gloves</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met
<b>Observation 1 Notes-</b>   
<b>Observation 2 Notes-</b>   

## ICE Checklist #1c: Access of AV Fistula\* or Graft for Initiation of Dialysis

Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N.

<p><b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Assemble supplies for that patient at dialysis chair (no common tray/cart at station);</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Wash skin over access with soap and water or antibacterial scrub.</b> <b>Exception: patient washed own access after entering facility as verified by ICE observation or interview</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Locate/palpate cannulation sites: sites not touched again after skin antiseptis (at step 7) without repeating skin antiseptis</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Don clean gloves; if not already worn, don gown, impermeable mask/eye protection or face shield</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Scrub skin over cannulation sites with antiseptic; allow antiseptic to dry before cannulating; sites not touched again after skin antiseptis, without repeating skin antiseptis</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Insert cannulation needles; tape in place; initiate treatment; remove gloves</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

\*Checklist not intended for observation of buttonhole cannulation technique

## ICE Checklist #2: Parenteral Medication Preparation and Administration

Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<p><b>Hand hygiene (HH) before preparing medications</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Medications prepared in a clean area, on a clean surface, away from dialysis stations</b> <b>note: exception</b> for drawing saline syringes at the dialysis station from patient's own clean saline bag, using aseptic technique Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Assemble supplies: sterile syringes, 70% alcohol swabs or other antiseptic, medication vials</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Single dose vials used for one patient only and discarded (punctured only one time)</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Multiple dose vials are only entered with a new, empty sterile syringe and needle and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial. (see Information Sheet #4)</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Open one vial of each medication at a time: wipe stopper with alcohol or other antiseptic; withdraw medication into sterile syringe</b> <b>May prepare meds for multiple patients at one time, but administration must be to one patient at a time, leaving the remainder of drawn meds in the clean preparation area</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Label syringes that are pre-drawn and not immediately administered with patient name, medication, dose, time drawn; take only individual patient's medications to their dialysis station</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Don clean gloves; wipe injection port (or patient's skin if sq or IM injection) with antiseptic (e.g. chlorhexidine, povidone iodine, iodophor, or 70% alcohol); inject medication</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Discard syringe into Sharps-container available at point of use; remove gloves</b> <b>Exception:</b> If using a needleless system with no attached needle, disposal in Sharps not necessary. Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b> Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

# ICE Checklist #3a: Access of Central Venous Catheter (CVC) for Termination of Dialysis



Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Assemble supplies; don gloves, gown, impermeable mask/eye protection or face shield</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Place clean field under CVC ports</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Re-infuse extracorporeal circuit; remove gloves</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Don clean gloves, scrub exterior of CVC hub with antiseptic</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Disconnect blood lines aseptically</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Scrub CVC hubs with antiseptic to remove any residue/blood; apply sterile port caps aseptically after post treatment protocol</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Discard unused supplies; remove gloves</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

# ICE Checklist #3b: Access of AV Fistula\* or Graft for Termination Of Dialysis and Post Dialysis Access Care

**Checklist #3b**

Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Assemble supplies; don gloves, gown, and impermeable mask/eye protection or face shield</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Re-infuse extracorporeal circuit; disconnect bloodlines aseptically; remove gloves</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Don clean gloves; remove needles aseptically ; discard needles in Sharps container at point of use; Remove gloves                  Needle sites held with clean gauze using clean gloved hands (patient and staff) or disinfected clamps</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>When hemostasis is achieved, replace any blood-soiled bandage(s) on needle sites; ensure the bandage on each needle site is clean &amp; dry site prior to discharge</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Discard unused supplies; remove gloves</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b>                  Obs 1: Met / Not Met                  Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

\* Checklist not intended for observation of buttonhole cannulation technique



## ICE Checklist #4: Cleaning and Disinfection of the Dialysis Station

Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

**Note: In other healthcare settings, patients vacate the treatment area before cleaning and disinfection occur. The patient should be vacated from station before cleaning/disinfection of the machine/station unless contraindicated by patient condition. Clinical judgment must be exercised to determine appropriate practice for each patient, ensuring that the patient is fully stabilized prior to discharge.**

Was the dialysis station vacated prior to cleaning/disinfection? Obs 1: Y / N Obs 2: Y / N

<p><b>Machine: don gown, gloves, impermeable mask/eye protection or face shield; remove all bloodlines and disposable equipment and discard in biohazardous waste; dialyzer to be reprocessed: all ports capped; dialyzer and bloodlines are transported in a manner to prevent contamination of other surfaces; remove gloves</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Don clean gloves; obtain EPA-registered disinfectant; tuberculocidal if visible blood</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Wipe all machine top, front and side surfaces and dialysate hoses wet with disinfectant per manufacturer directions for use; If visible blood, second application with tuberculocidal disinfectant per manufacturer directions for use</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Empty prime waste receptacle; all internal and external surfaces wiped wet with disinfectant per manufacturer directions for use</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Chair: vacated, fully reclined, all disposable supplies removed and discarded; With new disinfectant, wipe all external front-facing and side chair surfaces wet with disinfectant per manufacturer directions for use, including down sides of seat cushion and side tables</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Non-disposable items: BP cuff, TV controls, call button, data entry station and counters around station are cleaned and wiped wet with disinfectant</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>If clamps are used, cleaned of visible blood and dirt and disinfected.</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Discard cloth/wipe; remove gloves</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Hand Hygiene</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>
<p><b>Observation 2 Notes-</b></p>

# ICE Checklist #5: Dialysis Supply Management and Contamination Prevention



Certification Number: \_\_\_\_\_

Observation 1: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

Observation 2: Shift # \_\_\_ Staff Type \_\_\_\_\_ Isolation Y / N Visible from Nursing Station Y / N

<p><b>Supplies are stored and kept in designated clean areas, sufficient distance from dialysis stations to prevent contamination from potentially infectious materials/substances</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Supplies for next patient are not brought to the station before the prior patient's treatment is terminated and applicable equipment (machine, chair) cleaned/disinfected</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Carts or trays containing supplies are not taken to or moved between dialysis stations</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Staff do not keep patient care supplies in pockets or on their person</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Non-disposable equipment (e.g. thermometer, pH/conductivity meter, access flow device, O2 saturation meter, blood glucose meter) brought to the dialysis station is cleaned and disinfected before being returned to a common area or taken to another dialysis station</b></p> <p><b>Disinfection=all surfaces wiped with EPA-registered disinfectant per manufacturer's directions for use</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Multidose medication vials are not taken to the dialysis station</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Disposable supplies taken to the dialysis station (whether they are/are not used on the patient) are discarded</b></p> <p>Obs 1: Met / Not Met Obs 2: Met / Not Met</p>
<p><b>Observation 1 Notes-</b></p>          
<p><b>Observation 2 Notes-</b></p>          



This checklist is being developed to support efforts to reduce infections in dialysis facilities. It is in a preliminary form that has not been endorsed by CMS or CDC. No inferences should be drawn from its contents about what CMS is or is not recommending or requiring of dialysis facilities to prevent infections. CMS regulations and CDC recommendations remain your best guidance on how to prevent infection among your patients.

# Information Sheet 1

## Information Sheet #1: Hand Hygiene

Hand hygiene is the primary measure to reduce infections in the dialysis center. Adherence to accepted guidelines for hand hygiene has been shown to decrease the incidence of infections and to prevent the transmission of antimicrobial-resistant organisms and blood borne pathogens.<sup>1,2</sup> The World Health Organization has encouraged all healthcare facilities to adopt their 2009 guidelines, including the “My 5 Moments for Hand Hygiene” approach. According to this strategy, opportunities for hand hygiene can be stratified into five major activities.

### 5 Moments for Hand Hygiene in Health Care:

1. Before touching a patient
2. Before clean/aseptic procedure
3. After body fluid exposure
4. After touching a patient
5. After touching patient surroundings

### Acceptable Methods of Hand Hygiene:

#### Soap and water:

**Technique:** Wet hands first with water, apply an amount of product recommended by the manufacturer to hands, and rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers. Rinse hands with water and dry thoroughly with a disposable towel. Use towel to turn off the faucet. Avoid using hot water, because repeated exposure to hot water may increase the risk of dermatitis.

#### When to use:

- A. Wash hands with soap and water when visibly dirty or soiled with blood or other body fluids.
- B. If patient has known infection with *Clostridium difficile*, hand washing with soap and water is preferred.

#### Alcohol-based handrub:

**Technique:** Apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. Follow the manufacturer’s recommendations regarding the volume of product to use

**When to use:** This is the preferred means for routine hand hygiene in all other clinical situations, listed below.

### Indications for hand hygiene specific to dialysis centers:

- A. Before and after touching the patient
- B. Before handling an invasive device or performing any vascular access procedure
- C. After contact with body fluids, dialysate, mucous membranes, non-intact skin, or wound dressings
- D. If moving from a contaminated body site to another body site during care of the same patient, e.g., care of a wound followed by manipulation of a dialysis catheter.
- E. After contact with environmental surfaces and objects (including medical equipment, dialysis machine) in the dialysis station.
- F. Before handling medication or preparing food
- G. After removal of gloves

### References

1. WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Care is Safer Care. [http://whqlibdoc.who.int/publications/2009/9789241597906\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf)
2. Centers for Disease Control and Prevention. Guidelines for hand hygiene in health-care settings. MMWR 2002;51(RR 16) 1-45.

## Information Sheet 2

### **A. Provide a sanitary environment:**

- All treatment-related areas, equipment and surfaces are kept free of blood, mold, and accumulation of dirt, dust and other potentially infectious materials.
  - Treatment-related areas include any areas accessible to patients or public, and areas where dialysis supplies, equipment and medications are stored, prepared or processed.
  - There is a clear separation of clean and dirty work areas; clean areas are used for storage and preparation of medications and unused supplies; dirty areas are used for contaminated equipment
- Blood spills are promptly cleaned up with EPA registered tuberculocidal hospital disinfectant per manufacturer directions for use (DFU) with a second application of same using a new wipe/cloth for contact time per DFU.
- Infectious waste and sharps are disposed in clearly marked, leak-proof receptacles. Sufficient numbers of infectious waste receptacles and sharps are available in the patient treatment areas at point of use to reduce the potential for blood contamination of the patient care environment.
- Hand washing sinks and hand sanitizer dispensers are available in sufficient numbers for use by staff, patients and public to promote hand hygiene.
  - Hand washing sinks with warm water and soap for patient use; in isolation room/area; home training room(s); reuse room; medication preparation area; and for every 4-6 in-center hemodialysis stations

### **B. Prevention and management of specific pathogen exposure:**

- **Hepatitis B**
  - Surveillance: test all patients per CDC guidelines: prior to admission; ongoing testing as indicated by patient's immunity status; test results reviewed promptly and acted upon if indicated
  - Vaccination: offer vaccine to all susceptible patients and staff with follow up testing for vaccine response
  - Management:
    - Isolate hepatitis B surface antigen positive (HBV+) patients for dialysis treatments in a dedicated isolation room. If an isolation room is not possible for facilities Medicare certified prior to 10/14/2008, use an isolation "area" separated from other dialysis stations by the width of one dialysis station
    - Dedicate the isolation room/area for only HBV+ patient(s) when there is at least one such patient on census; all equipment and supplies are dedicated to the isolation room/area
    - Staff caring for HBV+ patients must not care for HBV susceptible patients at the same time, including the time period when dialysis is terminated on one patient and initiated on another.
    - When the last HBV+ patient on census is discharged, terminal cleaning of the isolation room/area and equipment is required before use for non-HBV+ patient
- **Hepatitis C:** Surveillance: test all patients per CDC guidelines: prior to admission; ongoing testing as indicated by the patient's immunity status; test results reviewed promptly and acted upon if indicated
- **Tuberculosis:** Surveillance: baseline testing of all patients and staff with rescreening for symptoms. Develop contingency plan for management of patients with active TB infection
- **Influenza:** Offer all patients and staff annual vaccination
- **Pneumococcal pneumonia:** Offer all patients vaccination
- **Modified Contact Precautions:**
  - Draining wound: separation of wound care from any dialysis –related care; full Personal Protective Equipment worn for wound care and discarded when completed; patient separation at a dialysis station with as few adjacent stations as possible and dedicated gown for staff caring for patient(s) with non-contained draining wound(s)
  - Fecal incontinence: separation of incontinence care from any dialysis-related care; full Personal Protective Equipment worn for incontinence care and discarded when completed; patient separation at a dialysis station with as few adjacent stations as possible and dedicated gown for staff caring for patient(s) with uncontrolled diarrhea or fecal incontinence

## Information Sheet 3

### Recommended Infection Prevention Components of QAPI

The facility QAPI program should implement ongoing and effective processes to prevent, detect and manage infections, with a goal of minimizing or eliminating healthcare associated infections acquired at the facility. The following clinical and technical areas should be continuously monitored, with analysis of the available data, prompt recognition of adverse trends, and implementation of performance improvement activities to achieve and sustain measurable improvements:

1. Infection occurrence surveillance: Occurrences should be logged for:

- a. All Bloodstream Infections (BSI), stratified by vascular access type. The CDC National Healthcare Safety Network (NHSN) dialysis event rates should be measured.
- b. All other positive culture results separated by location/site, including hemodialysis or peritoneal dialysis access exit site, wound, etc.

Sufficient information should be recorded for each occurrence, including patient identification, date of infection diagnosis (positive culture result), site of infection, infecting organisms with antibiotic sensitivities.

2. Disease-specific management should be addressed, with continuous monitoring, at a minimum for:

- a. Hepatitis B and Hepatitis C
  - i. Surveillance of all patients per CDC guidelines including comprehensive investigation and reporting of seroconversions
  - ii. Vaccination program for all HBV-susceptible patients to ensure timely offer of vaccination, and follow up testing of vaccines for response. Vaccination offered to all susceptible staff.
- b. Tuberculosis surveillance of patients and staff
- c. Influenza vaccination programs for patients and staff
- d. Pneumococcal pneumonia vaccination program for patients

3. Vascular access prevalence aimed at minimizing central venous catheter (CVC) rates and achieving optimum AV fistula use rates, including measuring CVC and AV fistula prevalence rates and AV fistula incidence rates

4. Staff education and visual practice audits

- a. All facility staff receive initial and at least annual education in infection control pertinent to their job duties, using, at a minimum, the information and procedures in Checklists #1-5.
- b. Direct care staff are visually audited, using the "ICE Checklists" #1-5 monthly; each direct care staff visually audited at least annually

5. Patient education should be focused on informing patients about infection prevention through vascular access care/hygiene. Patients should be informed about what to expect of direct patient care staff practices for infection control, and empowered to be an active participant in assuring the care they receive is appropriate, with freedom to voice concerns without fear of reprisal.

6. Environmental/technical: Ensuring the microbial safety of hemodialysis by monthly evaluation of:

- a. Water and dialysate cultures and endotoxin levels
- b. Dialyzer reprocessing and reuse program (if applicable)
  - i. Reuse water source and reuse equipment cultures and endotoxins
- c. Patient pyrogen reactions

## Information Sheet 4

### Information Sheet #4 Injection Safety/Safe Medication Handling

The Centers for Disease Control and Prevention (CDC) have identified 33 hepatitis outbreaks between 1998-2008, resulting from deficient healthcare practices. These outbreaks occurred in outpatient settings such as doctor's offices, outpatient clinics, dialysis centers, and nursing homes. Unsafe injection practices, such as reuse of syringes, accounted for most of the infections and exposures. In addition to viruses, unsafe practices when handling medications for injection can put a dialysis patient at risk of central line-associated bloodstream infections.

The following recommendations should be adhered to in all dialysis centers and apply to the use of needles, cannulas that replace needles, and, where applicable, intravenous delivery systems:

- Use aseptic technique to avoid contamination of sterile injection equipment and supplies.
- Do not administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed. Needles, cannulae, and syringes are sterile, single-use items; they should never be reused for another patient.
- Do not enter any vial with a used syringe or needle
- Decontaminate vial stoppers with antiseptic before entering a vial with a sterile needle
- Use fluid infusion and administration sets (i.e., intravenous bags, tubing, and connectors) for one patient only and dispose appropriately after use. Consider a syringe or needle/cannula contaminated once it has been used to enter or connect to a patient's intravenous infusion bag or administration set.
- Use single-dose vials for parenteral medications whenever possible.
- Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use.
- If multidose vials must be used, both the needle or cannula and syringe used to access the multidose vial must be sterile.
- Do not keep multidose vials in the immediate patient treatment area and store in accordance with the manufacturer's recommendations; discard if sterility is compromised or questionable.
- Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients
- Medications should be prepared only in a dedicated medication area and never at the dialysis station
- Medication vials should always be discarded whenever sterility is compromised or questionable.
- In addition, the United States Pharmacopeia (USP) General Chapter 797 [16] recommends the following for multi-dose vials of sterile pharmaceuticals:
  - If a multi-dose vial has been opened or accessed (e.g., needle-punctured) the vial should be dated and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial.
  - If a multi-dose vial has **not** been opened or accessed (e.g., needle-punctured), it should be discarded according to the manufacturer's expiration date.
- The manufacturer's expiration date refers to the date after which an unopened multi-dose vial should not be used. The beyond-use-date refers to the date after which an opened multi-dose vial should not be used. The beyond-use-date should never exceed the manufacturer's original expiration date.
- For information on storage and handling of vaccines please refer to [the CDC Vaccine Storage and Handling Toolkit](#) or the manufacturer's recommendations for specific vaccines.

References:

<http://www.oneandonlycampaign.org/content/what-are-they-why-follow-them>

# Access of Central Venous Catheter (CVC) for Initiation of Dialysis

## Procedural Checklist

Checklist  
#1a

- Hand Hygiene
- Assemble supplies for that patient at dialysis chair (no common tray/cart brought to dialysis station)
- Hand Hygiene
- Don clean gloves, gown, impermeable mask/eye protection or face shield
- Place clean field under CVC ports
- Scrub the exterior of the CVC hubs, with caps in place, with antiseptic
- Remove port caps; wipe threads and top of uncapped hub with antiseptic, using friction, removing any residue/blood
- Connect sterile syringes aseptically to each port to remove indwelling solutions and/or flush with sterile saline; initiate treatment; remove gloves
- Hand Hygiene

Note: If using "needleless" catheter system and connector device caps are not removed, scrub the injection port of the connector device

**Note:** If troubleshooting or manipulation of catheter or dialysis lines must occur during the dialysis treatment, then hand hygiene, gloves, PPE and disinfection of the CVC hub procedure should be performed as above with each manipulation.

# CVC Exit Site Care

## Procedural Checklist

Checklist  
#1b

- Hand Hygiene**
- Assemble supplies for that patient at dialysis chair (no common tray/cart at station)**
- Don clean gloves, gown, mask and eyeprotection; remove old dressing & discard; remove gloves**
- Hand Hygiene**
- Don clean gloves, cleanse area around CVC exit site with chlorhexidine unless there is a contraindication; allow to dry before applying dressing**
- Apply antimicrobial ointment to exit site, unless there is a contraindication or chlorhexidine impregnated sponge dressing is used**
- Sterile dressing applied to CVC exit site; remove gloves**
- Hand Hygiene**



# Access of AV Fistula or Graft for Initiation of Dialysis Procedural Checklist

Checklist  
#1c

- Hand Hygiene**
  - Assemble supplies for that patient at dialysis chair (no common tray/cart at station)**
  - Wash skin over access with soap and water or antibacterial scrub.**  
Exception: patient washed own access after entering facility as verified by auditor observation or interview
  - Locate/palpate cannulation sites; sites not touched again after skin antisepsis, without repeating skin antisepsis**
  - Hand Hygiene**
  - Don clean gloves; if not already worn, don gown, impermeable mask/eye protection or face shield**
  - Scrub skin over cannulation sites with antiseptic; allow antiseptic to dry before cannulating; sites not touched again after skin antisepsis, without repeating skin antisepsis**
  - Insert cannulation needles; tape in place; initiate treatment; remove gloves**
  - Hand Hygiene**
- Note: Checklist not intended for observation of buttonhole cannulation technique**

# Parenteral Medication Storage, Preparation and Administration Procedural Checklist

Checklist  
#2

Assemble supplies in a clean area with clean surface away from dialysis station before the following steps:

- Hand hygiene**
- Open one vial of each medication at a time**
- Wipe stopper with alcohol or other antiseptic**
- Withdraw medication into sterile syringe, Label syringes**  
Note: May prepare meds for multiple patients at one time, but administration must be to one patient at a time, leaving the remainder of drawn meds in the clean preparation area
- Take only individual patient's medications to their dialysis station**
- Hand Hygiene**
- Don clean gloves, wipe injection port with antiseptic**
- Inject medication**
- Discard syringe into Sharps-container**
- Remove gloves**
- Hand Hygiene**

**\*Note: this checklist is intended to address the infection control aspects of medication preparation and injection, and does not include requirements for verification of accuracy of medication administration (i.e. order verification, patient identification, documentation) or injection technique**

# Access of Central Venous Catheter (CVC) for Termination of Dialysis

## Procedural Checklist

Checklist  
#3a

- Hand Hygiene
- Assemble supplies; don gloves, gown, impermeable mask/eye protection or face shield
- Place clean field under CVC ports
- Reinfuse extracorporeal circuit, remove gloves
- Hand Hygiene
- Don clean gloves, scrub exterior of CVC hub with antiseptic
- Disconnect blood lines aseptically
- Scrub CVC hubs with antiseptic to remove any residue/blood; apply sterile port caps aseptically after post treatment protocol
- Discard unused supplies; remove gloves
- Hand Hygiene

# Access of AV Fistula or Graft for Termination of Dialysis and Post Dialysis Access Care Procedural Checklist

Checklist  
#3b

- Hand Hygiene**
  - Assemble supplies, don gloves, gown, & impermeable mask/eye protection or face shield**
  - Reinfuse extracorporeal circuit, disconnect bloodlines aseptically, remove gloves**
  - Hand Hygiene**
  - Don clean gloves, remove needles aseptically; discard needles in Sharps container at point of use; remove gloves**
- Note: Needle sites held with clean gauze using clean gloved hands (patient and staff) or disinfected clamps.**
- When hemostasis is achieved, replace any blood-soiled bandage(s) on needle sites; ensure the bandage on each needle site is clean & dry site prior to discharge**
  - Discard unused supplies; remove gloves**
  - Hand Hygiene**

**Note: Checklist not intended for observation of buttonhole cannulation technique**

# Cleaning and Disinfection of the Dialysis Station

**Checklist  
#4**

## Procedural Checklist

- Don gown, gloves & impermeable mask/eye protection or face shield
- Remove all bloodlines & disposable equipment & discard in biohazardous waste; dialyzer to be reprocessed all ports capped; dialyzer, bloodlines etc. are transported in a manner to prevent contamination of other surfaces; remove gloves
- Hand Hygiene
- Don clean gloves, obtain EPA-registered disinfectant; tuberculocidal if visible blood
- Wipe machine top, front and side surfaces and dialysate hoses wet with disinfectant per manufacturer directions for use;  
If visible blood, second application with tuberculocidal disinfectant
- Empty prime waste receptacle: wipe all internal and external surfaces wiped wet with disinfectant per manufacturer directions for use
- When chair is vacated, remove and discard all disposable supplies
- Fully recline chair and clean with disinfectant, wipe all external front-facing and side chair surfaces wet with disinfectant per manufacturer directions for use, including down sides of seat cushion and side tables
- Wipe down all non-disposable items BP cuff, TV controls, call button, data entry station & counters around station with disinfectant
- If clamps are used, clean off visible blood and dirt and disinfect
- Discard cloth/wipe; remove gloves
- Hand Hygiene

**NOTE: Allow disinfectant contact time per manufacturer's recommendations for all above items.**

**NOTE: In other healthcare settings, patients vacate treatment area before cleaning and disinfection occur. This practice should be considered for dialysis facilities.**