

DIALYSIS DIALOGUE

Welcome to this edition of *Dialysis Dialogue*, a newsletter published by the North Dakota Department of Health, Division of Health Facilities. *Dialysis Dialogue* is designed to help dialysis suppliers stay up-to-date on various issues. Please share with your dialysis staff.

Infection Control

Infections are a major patient safety concern in dialysis. The hemodialysis environment provides the challenge of a “Perfect Storm” for infection due to many factors: no physical separation between treatment stations, short changeover times, staff caring for multiple patients, large potential for blood exposure and immunosuppressed ESRD patients. All of these factors present a high risk for spread of blood-borne and other pathogens.

Review of infection control is significantly increased in the ESRD Core Survey. The core survey process for infection control includes observation, interview and record review. Observation will be conducted on different days, different shifts and of different staff members and will focus on the following:

*Hemodialysis patient care and dialysis station/equipment preparation:

- Pre-dialysis vascular access care and initiation of hemodialysis
- Discontinuation of hemodialysis treatment and post-dialysis vascular access care
- Cleaning and disinfection of the dialysis station between patients
- Preparation of the dialysis machine and extracorporeal circuit
- Dialysis supply management

*Medication preparation and administration

*Facility isolation practices:

- Isolation room/area
- Equipment and supplies contained within the isolation room/area if there are Hepatitis B (HBV) positive patients on in-center hemodialysis
- Separation of care practices from the HBV susceptible patients
- Staff/patient assignments when an HBV positive patient is dialyzing

*Verification of dialysis treatment prescription

Infection Control Checklists

The infection control checklists can be downloaded from the following CMS website:

<http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Dialysis.html>.

Download the “ESRD Core Survey Field Manual” and then scroll down to the Observations of Hemodialysis Care & Infection Control Practices section.

***REMINDER: CMS updates these forms frequently; check the website periodically to make sure you have the latest version!**





How Can Dialysis Patient Infections be Prevented?

Infections can be prevented by adherence to good infection prevention and control practices. The Centers for Disease Control and Prevention (CDC) guidelines are incorporated into the ESRD Conditions for Coverage. These CDC guidelines have been placed at the Condition for Infection Control. “Adopted by reference” means the CDC guidelines are *required* practices - when the regulations say “should,” it means “shall.” Below are five sources of infection transmission in dialysis. Review your facility’s infection control practices with these guidelines in mind.

Five Sources of Infection Transmission in Dialysis

1. On the hands of staff going between patients and between common areas and patients
 - V113: wear gloves, sanitize hands
2. From ineffectively disinfected equipment and environmental surfaces
 - V122: surfaces and equipment cleaned and disinfected
 - V116: items taken to dialysis station disinfected, discarded or dedicated
 - V120: external hemodialysis machine transducer protector changes; inspected if wetted
3. From contaminated supplies and medications
 - V116: Items taken to dialysis station – “3 Ds” – disinfect, dedicate, or discard
 - V117: clean/dirty areas; no common medication carts; supplies protected from contamination
 - V118: single dose medication vials used for one patient only
 - V119: supply carts not moved between dialysis stations
 - V143: aseptic techniques for medication

preparation and administration

4. From inadequate vascular access care
 - Primary portal for dialysis patient infections
 - Central Venous Catheters (CVC) have a seven times higher infection rate than arteriovenous (AV) fistulas and have 2.5 times higher mortality
 - V147: CVC care and staff education
 - V550: AV fistula/graft care (in Patient Plan of Care)
5. From specific pathogens
 - Hepatitis B (HBV) poses serious risk to dialysis patients
 - V124: test all patients for HBV
 - V126, V127: offer vaccination to all susceptible patients and staff with follow-up testing
 - V128: isolate HBV positive patients
 - V130: dedicate equipment and supplies for HBV positive patients
 - V131: staff *must not* deliver care to HBV positive patients and susceptible patients at the same time

Goals for Use of the Observation of Hemodialysis Care Worksheet

- STANDARDIZE the way surveyors observe dialysis care
- FOCUS observation on the high risk activities that have the most impact on patient safety
- Give CLARITY of what is expected to surveyors and direct care staff

Providers have access to the checklists – putting surveyors and dialysis staff on “the same page” for infection control practices will promote better care, and possibly reduce infection rates!

So What is on the CMS Infection Control Checklists?

*Central Venous Catheter (CVC) Access and Care (Checklists #1, #2, and #3)

- Masks on staff and patient
- Clean field under CVC ports/line connections
- Hubs (ports) of CVC disinfected before and after (external or open port or both)
- Exit site care/dressing change:
 - ◊ No common supply tray/cart taken to the station
 - ◊ Glove change/hand hygiene between old dressing and cleaning
 - ◊ Cleanse exit site; sterile dressing applied
- Glove change/hand hygiene between discontinuation of treatment and post treatment CVC care

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***AV Fistula/Graft Access and Care (Checklists #4, and #5)**

- Pre-Dialysis access care and initiation of dialysis
 - ◊ Skin over access washed/cleaned (by patient/staff)
 - ◊ Locate/palpate access before skin antisepsis – No touching sites after this without repeat antisepsis
 - ◊ Skin antisepsis per manufacturer’s directions for use (DFU)
- Post-Dialysis care
 - ◊ Glove change/hand hygiene between discontinuation of treatment and needle removal
 - ◊ Needle sites held with gloves or disinfected clamps (on mature access), soiled dressings replaced
 - ◊ Patients/visitors holding sites perform hand hygiene before touching other items/surfaces or leaving

***Cleaning and Disinfection of the Dialysis Station (Checklist #6)**

- No supplies for next patient brought to the station before disinfection of the station (no supplies within “splash” zone)
- All equipment/surfaces wiped visibly wet with EPA-registered hospital disinfectant (prepared/diluted per manufacturer’s instructions)
- Dialysis Machine
 - ◊ Remove bloodlines, single use dialyzers and disposable equipment; discard in biohazardous waste
 - ◊ For reprocessed dialyzers, cap ports and transport in a manner to prevent contamination
 - ◊ Disinfect machine surfaces (top, front, sides), dialysate hoses, Hansen connectors, internal and external surfaces of prime waste receptacle and exterior of portable dialysate jugs
- Chair: vacated, fully reclined, sides opened (if possible)
 - ◊ Fresh disinfectant wipe/cloth used
 - ◊ All front-facing surfaces wiped, including surfaces along sides of seat cushion and side tables
 - ◊ Non-disposable items wiped: blood pressure cuff, television controls, etc.
 - ◊ Disposable items discarded or dedicated to that patient

***Preparation of the Hemodialysis Machine/Extracorporeal Circuit (Checklist #7)**

- Hemodialysis machine must be operated in accordance with the manufacturer’s DFU; dialyzers must be rinsed and tested in accordance with the germicide (if reprocessed) and dialyzer DFU
- Dummy drip chambers must never be used to prepare a machine for patient treatment!
- Staff personal protective equipment (PPE) at a minimum must be gloves; if using reprocessed dialyzers, staff PPE must also include gown, face shield or mask/eye protection
- Reprocessed dialyzer germicide tests done
 - ◊ Presence test before rinsing/priming
 - ◊ Absence of residual test prior to treatment initiation
 - ◊ Patient and dialyzer matched and identified by two people while patient at the dialysis station
- Dialyzer rinsed/primed with sufficient saline
- Dialysate pH and conductivity tested with an independent method
 - ◊ Staff aware of allowable pH range and variation from machine conductivity reading
- Machine alarms and internal functions tested



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*Parenteral Medication Preparation and Administration (Checklist #8)

- Medications prepared in clean area, away from station
 - ◊ Exception: saline drawn from patient's own bag
 - ◊ Aseptic technique – clean hands, disinfect vial stoppers
- Single dose vials for one patient
 - ◊ Multiple dose vials entered with only new sterile syringe and needle – no “pooling”
 - ◊ Administer medications to one patient at a time
 - No medication carts, no other patients' medications taken to station
 - Personal Protective Equipment
 - Disinfect injection port before injection

*Supply Management and Contamination Prevention (Checklist #9)

- For general observation during the observation period(s) while using checklists one through eight
- Some overlapping with the other checklists
- Supplies stored away from potential contamination
 - ◊ Sufficient distance from dialysis station
 - ◊ No “next” patient supplies brought to station until that equipment has been disinfected
 - ◊ Non-disposable equipment brought to dialysis station disinfected (e.g., pH/conductivity meter)

Most Common Deficiencies

Following is a breakdown and summary of the most common deficiencies cited in the North Dakota ESRD program from Oct. 1, 2014, to Sept. 30, 2015.

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| <ul style="list-style-type: none"> • V0260 – Water And Dialysate Quality <i>Personnel Training Program/Periodic Audits</i>

A training program that includes quality testing, the risks and hazards of improperly prepared concentrate, and bacterial issues is mandatory. Operators should be trained in the use of equipment by the manufacturer or should be trained using materials provided by the manufacturer. The training should be specific to the functions performed (i.e., mixing, disinfection, maintenance and repairs). Periodic audits of the operators' compliance with procedures should be performed. The user should establish an ongoing training program designed to maintain the operator's knowledge and skills. | <ul style="list-style-type: none"> • V0113 – Infection Control <i>Gloves/Hand Hygiene</i>

Wear disposable gloves when caring for the patient or touching the patient's equipment at the dialysis station. Staff must remove gloves and wash hands between each patient or station. |
| <ul style="list-style-type: none"> • V0403 – Physical Environment <i>Equipment Maintenance</i>

The dialysis facility must implement and maintain a program to ensure that all equipment (including emergency equipment, dialysis machines and equipment, and the water treatment system) are maintained and operated in accordance with the manufacturer's recommendations. | <ul style="list-style-type: none"> • V0147 – Infection Control <i>Catheters/Catheter Care</i>

Health care worker education and training – Educate health-care workers regarding the appropriate infection control measures to prevent intravascular catheter-related infections and assess knowledge of and adherence to guidelines periodically for all persons who manage intravascular catheters.

Surveillance – Monitor the catheter sites visually of individual patients. If patients have tenderness at the insertion site, fever without obvious source, or other manifestations suggesting local or blood stream infection, the dressing should be removed to allow thorough examination of the site. |

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- V0628 – Quality Assessment and Performance Improvement Measure/Analyze/Track Quality Indicators

The dialysis facility must measure, analyze and track quality indicators or other aspects of performance that the facility adopts or develops that reflect process of care and facility operations. These performance components must influence or relate to the desired outcomes or be the outcomes themselves.

- V0715 – Responsibilities of the Medical Director Ensure All Adhere to Policies and Procedures

All policies and procedures relative to patient admissions, patient care, infection control, and safety are adhered to by all individuals who treat patients in the facility, including attending physicians and non-physician providers.

Interview and Record Review for Infection Control

Interviews: Patients and Staff

Have patients received infection control education and are they engaged or involved with the dialysis team in infection control? Do staff wash their hands or use hand sanitizer? Do they change gloves? Do they wear masks when they work with catheters? Is the dialysis chair clean upon patient arrival? Does the facility look clean? Surveyors may also ask staff members infection control questions, based on survey issues.

Medical Record Review

Review infectious disease surveillance and vaccination history for patients who are newly admitted (<90 days). Testing for Hepatitis B Virus (HBV) and tuberculosis and vaccinations for influenza, pneumococcal and HBV if susceptible. Review patients who have current infections or a history of infections. Record review will include infection management, implementation of plan of care, antibiotics given, follow-up cultures, vascular access instructions, etc.

Quality Assurance and Performance Improvement (QAPI) Review of Infection Prevention and Control

Part of the QAPI review looks at the entire infection control program. Review the following areas:

- Infection occurrence tracking and surveillance
- Vaccination: high-risk disease management
 - Hepatitis B Virus (HBV), tuberculosis, influenza, pneumococcal
- Staff education and visual practice audits for infection control
- Patient education and engagement
- For facilities with high infection rates and Central Venous Catheter (CVC) rates, what performance improvement actions have been taken

“A healthy attitude is contagious but don’t wait to catch it from others. Be a carrier.”

Tom Stoppard

If your facility would like to receive *Dialysis Dialogue* electronically, please send your e-mail address to bweidner@nd.gov



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