



**NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES**

**Hemodialysis - Section 03 - Patient Assessment & Management - Neph 3-06
Infection Control Practices for the Hemodialysis Unit
No.: 00730 (TOH Standardized Policy Number)**

ISSUED BY:

Hemodialysis Clinical Practice /
Infection Control

DATE OF APPROVAL:

N/A

APPROVED BY:

Program Clinical Director / Division Head

LAST REVIEW/REVISION DATE:

2017/04

CATEGORY:

Patient Assessment and Management

IMPLEMENTATION DATE:

2001/12

PURPOSE:

- To adopt infection control practices, which will prevent nosocomial transmission of blood borne viruses, and pathogenic bacteria among patients within the hemodialysis unit

BACKGROUND STATEMENT:

- In addition to Routine Practices, more stringent precautions are recommended for hemodialysis units because of the increased potential for contamination and subsequent transmission of infectious agents. Chronic hemodialysis patients are at increased risk for infection because the process of hemodialysis requires vascular access for prolonged periods. In an environment where multiple patients receive dialysis concurrently, repeated opportunities exist for person-to-person transmission of infectious agents, directly or indirectly via contaminated devices, equipment and supplies, environmental surfaces, or on the hands of personnel.

INFECTION CONTROL PRACTICES INCLUDE:

- Routine serologic testing for Hepatitis B and Hepatitis C virus infection
- Isolation of patients who test positive for Hepatitis B surface antigen
- Vaccination of susceptible patients against Hepatitis B, influenza and pneumonia
- Infection control precautions for other epidemiological important organisms e.g. herpes zoster, *Clostridium difficile*. and Antibiotic Resistant Organisms
- Staff adherence to Routine Practices, as well as those practices specific to the hemodialysis unit

SUPPLIES:

- Non-sterile gloves
- Sterile gloves
- Personal protective equipment
- Needle-less systems
- Hand washing facilities
- Alcohol Based Hand Rub
- Hospital grade disinfectant wipe
- Black boxes

DEFINITION(S): N/A

ALERTS: N/A

PROCEDURE:

Section 1: Handling of supplies

1. Perform hand hygiene before and after a procedure involving patient contact and between tasks and procedures on the same patient to prevent cross contamination of different body sites
2. Non-sterile/sterile gloves must be worn whenever there is potential contact with patient's blood or body fluids e.g. dialysis procedure, manipulating blood tubing, taking blood specimens
3. Protective barriers e.g. gloves, gowns, masks, protective eyewear/face shields must be worn during dialysis procedures whenever there is a risk of blood splashing (e.g., during initiation and termination of dialysis)
4. Non-disposable supplies taken to the dialysis station e.g. monitors, pumps, transonic machines, telephones must be cleaned and disinfected before being used with another patient and before storage
 - Non-disposable items that cannot be cleaned and/or disinfected e.g. tape, tourniquet, and clamps, must be dedicated for single patient use only or discarded
5. Unused medications or supplies (i.e. syringes, alcohol swabs, gloves) taken to a patient station cannot be returned to the clean storage area or used on other patients
6. Supply carts must be at a sufficient distance from patient stations to avoid contamination with blood.
 - Supply carts must not be moved between stations to distribute supplies
7. Black boxes are to be used for patient specific items i.e. tape, patients' mitt and tourniquets
 - Items inside should be treated as 'contaminated'. Remove gloves and perform hand hygiene after handling the contents of the boxes
 - Disposable items visibly soiled with blood should be discarded

- The exterior surfaces of the boxes are to be cleaned with a hospital grade disinfectant prior to being returned to storage
- The weekly cleaning of the boxes by the designated employee shall include:
 - Emptying contents
 - Cleaning inside of the box with hospital grade disinfectant wipe
 - Disposal of any item found to be soiled with blood or body fluids
 - Restocking of items
- The cleaning shall be done at the patient's bedside or in a designated area. The surface of the designated area needs to be cleaned or changed between boxes. Remove gloves and perform hand hygiene between each patient black box
- 8. No handling or storing contaminated (used) supplies, equipment, blood samples or biohazard containers in areas where medications and clean (unused) equipment and supplies are handled

Section 2: Dialysis equipment

1. Document the machine # and station # the patient is assigned to for tracking purposes
2. The dialysis machine, thin client, chair, bedside table, blood pressure cuff, TV remote and any other piece of equipment that will remain at the station for the next patient must be cleaned with a hospital grade disinfectant before the next patient is present. Routine cleaning and disinfection of the external surfaces of the Hemodialysis equipment is performed by the Dialysis Aides (Nursing staff in units where Dialysis Aides are not available). Special attention must be given to control panels and other surfaces that are frequently touched and potentially contaminated with patient's blood. Peroxide is not used to remove blood. The Dialysis Technologists must be informed should there be signs of excessive blood that cannot be removed with normal cleaning so that an internal verification can be done
3. Supplies for the next patient cannot be taken to the station until cleaning is completed
4. Used dialyzers and blood tubing must be disposed of in leak-proof garbage containers
5. In the event of a blood leak during treatment the dialysis machine must be chemically disinfected (Clean Cart A) before being used on another patient
6. Dialysis machines used for Hepatitis B positive patients must be disinfected and stored separately from other dialysis machines. The machines must be clearly identified/tagged for Hepatitis B positive patient use only [Neph 3-07 \(# 01210\)](#)
7. HIV and Hepatitis C infected patients do not require a separate dialysis machine or isolation

Section 3: Handling and delivery of patient medications

1. Perform hand hygiene before preparing or administering medication by any route
2. Medication preparation areas must be in a clean designated area away from any dialysis station, used supplies and/or equipment
3. Multiple dose medication vials must not be carried to the station
4. Medication vials, syringes, alcohol swabs or supplies must not be carried in staff pockets
5. Medications should only be stored in the medication preparation area. Some patient specific medications may be placed in the patient's box

Section 4: Environmental

1. Routine cleaning and prompt removal of garbage by housekeeping must occur to remove soiled and potentially infectious waste from the environment
2. Gross blood spills or items visibly contaminated with blood are to be wiped away then cleaned immediately with a hospital grade disinfectant. After all the visible blood is cleaned, use a new cloth to apply disinfectant a second time
3. No food or drinks are to be consumed by staff in the dialysis unit treatment areas including the nursing station. Putting objects in the mouth, such as pens/pencils, is discouraged
4. Sharps are disposed of into a puncture proof sharps container that is replaced when 2/3 full. These containers are to be located at each patient station and as close as possible to other points of use
5. If the hemodialysis circuit must be discarded, the blood filled circuit is discarded into a YELLOW Biohazard Waste container. The cover and biohazard waste label are applied

Section 5: Patient specific

1. Perform routine serologic testing for Hepatitis B (send STAT) and C at first hemodialysis treatment if no report is readily available. The hemodialysis machine is to be isolated until results are received. (Not to be used on other patients until results known)
2. Follow up on serological results as per [Neph 3-07 \(# 01210\)](#) or Medical Directive
3. As per [Medical Directive Neph 2-07](#), perform Mantoux testing on those patients who are starting maintenance hemodialysis for whom there is no report of a TB test within the last 12 months
4. Vaccinate all susceptible chronic patients for Hepatitis B as per [Medical Directive Neph 2-09](#)
5. Patients / relatives must wear non-sterile gloves and perform hand hygiene after holding needle sites

Section 6: Staff specific

1. Dialysis staff is strongly encouraged to be vaccinated against Hepatitis B due to the increased risk of blood exposure in this setting
2. Staff is strongly encouraged to be vaccinated for other transmissible diseases (i.e. Influenza, etc.) as per recommendations by Occupational Health and Wellness (OHW)
3. Staff should be fit tested for N95 masks and should know the number of the mask that they have been fit tested for
4. Needle stick injuries must be reported promptly as per [Corporate Policy # 00250](#)
5. All staff should review their immunization status to ensure that they are appropriately immunized
6. All staff has an obligation not to endanger the health of patients and to take all measures necessary to prevent transmission of an infection from themselves to patients. Staff members must not work if they have a Febrile Respiratory Illness or Norwalk-like illness (and must notify Occupation Health). Staff must not work if they have a communicable disease (as directed by Occupational Health)

RELATED POLICIES / LEGISLATION:

1. Corporate Policies and Procedures - Occupational Health and Safety - [Policy # 00250 Occupational Exposure to Blood-Borne Pathogens: Prevention and Post-Exposure Management](#)
2. Nephrology Policies and Procedures - [Hemodialysis - Section 02 - Medical Directives - Neph 2-07 Tuberculosis Testing–Mantoux Skin Test](#)
3. Nephrology Policies and Procedures - [Hemodialysis - Section 02 - Medical Directives - Neph 2-09 Hepatitis Vaccine](#)
4. Nephrology Policies and Procedures - [Hemodialysis - Section 03 - Patient Assessment and Management - Neph 3-07 \(# 01210\) Management of Hepatitis B Surface Antigen Positive/Hepatitis B Weak Positive Patients on Hemodialysis](#)

REFERENCES:

1. College of Nurses of Ontario, Infection Prevention and Control Standards, 2009
2. [Recommendation for Preventing Transmission of Infections among chronic hemodialysis patients. April 27, 2001/ 50\(RR05\); 1-43](#)
3. Gambro Artis User Manual, 2010 Cod. 6992499 Rev.
4. TOH myHospital Policies and Procedures Infection Prevention and Control

COMMENTS / SIGNIFICANT REVISIONS: N/A