Name of Policy: **Management of HBV and Other Blood Borne Pathogens in the Dialysis Unit-Infection Control** **Policy Number**: 3364-118-20 **Approving Officer**: Chief Nursing Officer Assistant Chief Nursing Officer **Responsible Agent**: Clinical Director, End Stage Renal Disease Program **Scope**: The University of Toledo Medical Center	UTOLEDO HEALTH **Effective date:** **Original effective date**: July 1975
Key words:	

☐	New policy proposal	☐	Minor/technical revision of existing policy
☒	Major revision of existing policy	☐	Reaffirmation of existing policy

(A) Policy statement

Specific measures must be instituted and used in the Hemodialysis Unit to prevent the spread of Hepatitis B virus and other Bloodborne pathogens.

(B) Purpose of policy

To prevent the transmission of blood borne pathogens to patients and staff within the Univeristy of Toledo Medical Center.

(C) Procedure

1. Hemodialysis Risk Classifications
   a. The nursing director and all staff nurses are identified as performing Category I tasks due to the risk of Bloodborne pathogen exposure.
2. Standard precautions will be followed with all patients to reduce the risk of transmission of bloodborne pathogens. Refer to the UTMC Bloodborne Pathogen Exposure Control Plan.
   c. Personnel will wear appropriate PPE anytime they are manipulating the dialysis circuit, PPE must be changed anytime it becomes contaminated with blood, body fluids,(including dialysate), secretions, or excretions. Refer to the Hemodialysis Personal Protection Equipment Guideline for use of PPE.

https://www.utoledo.edu/policies/utmc/nursing/guidelines/hemodialysis/pdfs/personal-protective-equipment-while-caring-for-a-hemodialysis-paitent.pdf

3. The following steps must be followed to reduce contamination of equipment in the dialysis unit.
   a. The number of the machines used for each dialysis treatment should be recorded on the flow sheet (for future reference).
   b. Linen will be used on chairs and beds and must be changed between patients. The entire dialysis bay will be cleaned with hospital approved disinfectant wipes(e.g. PDI Super Sanicloth).
   d. Blood spills must be attended to immediately using the hospital approved spill kit. Blood should not be allowed to remain in the environment or on the equipment.. Cleaning procedures should be followed as outlined on the outside of the spill kit following the Infection Control Precautions Policy Cleaning the dialysis machines will be done by dialysis staff following the manufacturer's recommendations.
   e. Disposable equipment will be used whenever possible. Non-disposable equipment should be appropriately cleaned, disinfected or sterilized after each dialysis. Special attention should be given to control knobs on the machines and to other surfaces touched and contaminated with blood during the dialysis procedure. Any contaminated equipment sent for servicing or repair must be identified with a biohazard label.
   f. All grossly bloody contaminated waste will be disposed of in designated red liner containers for proper identification by housekeeping personnel. Trash bags should be strong enough to prevent leakage. Bags should not be overfilled to avoid breakage and spillage and tied securely to prevent leakage of contents upon transfer.

4. Education of staff and patients.
   a. Hemodialysis staff will complete annual safety/infection prevention training. New employees will receive training. Additional training will occur when recommendations are changed and/or the employees risk category changes.
   b. The dialysis unit's infection prevention policy will be reviewed and/or revised annually, or more often if necessary, to comply with current recommendations from Center for Medicare and Medicaid.

5. Routine serologic surveillance of hemodialysis patients will be performed
   a. Prior to connecting patients to the dialysis machine, Hepatitis B status must be verified by dialysis staff. Per Center for Medicare and Medicaid Services(CMS) guidelines, all new patients should be tested and their HBV serologic status know prior to admission and treatment. HBV serologic status for new patients includes the following tests HBsAG, Anti-HBc, and anti-HBs.

b. Patients from chronic dialysis facilities will have their current months HBsAg status verified by contacting the dialysis facility.
c. HBsAg specimens will be sent to the lab.
d. Appropriate patient teaching regarding hepatitis control shall be responsibility of the hemodialysis staff. All ESRD patients will be instructed in hepatitis and its precautions and this teaching documented.

6. Isolation and Care for a Hepatitis B positive (HBV+) patients
   a. A separate isolation room with a door must be used for a Hepatitis B (HBV) positive patient.
   b. Separate sinks must be used for handwashing and equipment cleaning.
   c. HBV - patients cannot be placed in this space during the same time as a positive HBV+. This room cannot be used for a HBV-patient until the HBV + patient is no longer on census and the room is terminally cleaned and disinfected.
   d. Separate dedicated supplies and equipment must be used to provide care for the HBV+ patient and must be dedicated to the isolation room. When the HBV+ patient is no longer on census, all items that cannot be disinfected must be thrown out.
   e. Refillable concentrate containers must be surface disinfected at the completion of each treatment. Refillable concentrate containers may be kept in the isolation area and refilled at the door or removed for cleaning and disinfection. In the disinfection area, the “isolation” container(s) and pick-up tube(s) must be segregated in a dedicated, designated area away from all other containers and pick-up tubes. If the container/pick-up tube is to be rotated out of the isolation area, it must be bleached before subsequent use.
   f. Separate gowns should be used in the isolation area and removed before leaving the isolation area/room. Anyone entering the isolation area/room during the patient’s treatment must wear a protective gown.
   g. HBV+ patients must undergo dialysis on dedicated machines. Because of the risk of cross-contamination, facilities should avoid switching equipment used for HBV+ patients for use with HBV- patients.
   h. Equipment used for HBV+ patients should be reserved for the HBV+ patients unless repair or maintenance is needed, or until all HBV+ patients have been discharged.
   i. When the machine is no longer dedicated to an HBV+ patient, internal pathways of the machine can be disinfected using conventional protocols, external surfaces cleaned and disinfected and the machine returned to general use.
   j. One staff person may care for one or more HBV+ patients and one or more immune patients at the same time, but may not simultaneously care for Hepatitis B susceptible patients.
   k. Hepatitis B immune status should be considered when patients are assigned to stations nearest the isolation area. If a staff member assigned to care for an HVB+

patient must concurrently care for someone other than another HBV+ patient, the additional patient(s) must be HBV immune.

l. Patients who require a booster dose of the HBV vaccine should not be assigned to a staff member concurrently caring for HBV+ positive patients.

m. When possible, only HBV immune staff should be assigned to care for HBV+ patients.

7. Management of exposure to HBsAG (+) dialysis patients
    a. Exposure: Patients who are dialyzed in the same room or environment as a documented HBsAg (+) dialysis patient are considered to be exposed. Blood contamination of environmental surfaces through shared, equipment, supplies and staff is a viable vehicle for transmission.
    b. Testing now: Testing is recommended for exposed patients as soon as the exposure is recognized. If there is a delay in recognition of the exposure, these test results cannot be considered reflective of patient status at the time of exposure.
    c. Vaccination if exposure < 1 week ago: If the exposure occurred within the last week, these vaccines should be offered to exposed patients as soon as possible. Hepatitis B immune globulin (HBIG) offers passive immune protection (3-6 months) against HBV and is most likely to be effective if given within 1 week after a percutaneous exposure. 2 Passively acquired anti-HBS can be detected for 4-6 months post HBIG administration. Hep B vaccine, if indicated, can be administered at the same time as HBIG at an anatomically different site.
    d. Vaccination if exposure > 1 week ago: While data are limited, HBIG is unlikely to be effective if administered more than 7 days after a percutaneous exposure.
    e. One-time testing > 12 weeks after exposure: If the patient was not previously HBsAg (+) or total Anti-HBc (+), testing for HBsAg should be conducted > 12 weeks after exposure. If the patient is HBsAg (-) at 12 or more weeks after exposure, then hepatitis B infection can be ruled out from this exposure. If HBsAg (+) at 12 weeks, repeat all hepatitis B serologies (anti-HBs, anti-HBc total, and HBsAg) in 6 months. NOTE: Hepatitis B vaccine can result in a false positive HBsAg, so delay testing for HBsAg > 4 weeks after vaccination or test with HBV DNA
    f. If exposure is suspected Infection Prevention is notified. Dialysis nursing staff will provide the following information:
        i. Complete list of all patients currently being dialyzed at the facility and a hepatitis summary report with all current and previous (3 months prior to the event) hepatitis testing.
        ii. Create a spreadsheet for the tracking/follow up of individuals that are susceptible, have an immunity status that's unknown and those that labs are needed. All patients that were immune as evidenced by the presence of anti-HBs can be ruled out as the both the source and the person suspected of being infected.
    g. If exposure is determined, Risk Management will be notified.Risk Management will work with the Medical Director of the Dialysis Unit and/or the patient's PCP regarding any necessary patient disclosures regarding the exposure. Physician will provide the disclosure to patients as appropriate.

References:

CDC Dialysis guidelines are found at: https://www.cdc.gov/mmwr/PDF/rr/rr5005.pdf or https://www.cdc.gov/dialysis/guidelines/index.html 2

CDC Hep B vaccination guidelines, including post-exposure guidelines are found at: https://www.cdc.gov/mmwr/volumes/67/rr/pdfs/rr6701-H.PDF or https://www.cdc.gov/vaccines/vpd/hepb/index.html or https://www.cdc.gov/hepatitis/hbv/pep.htm

Center for Disease Control and Prevention. (2018). *Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices.* Retrieved from https://www.cdc.gov/mmwr/volumes/67/rr/rr6701a1.htm

ESRD Interpretive Guidance Version 1.1(2008) found at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Downloads/esrdpgmguidance.pdf

Approved by:	**Policies Superseded by this Policy:**
	• *None*
Daniel Barbee, MBA, BSN, RN, FACHE Chief Executive Officer	Initial effective date: *July 1975*
Date	Review/Revision Date: July 1976 April 18, 1979 September 9, 1981 December 20, 1982 December 1984 September 1985 January 1986 August 1986 December 1987 May 1988 December 1989 March 1990 September 1991 March 1993 April 1994 March 1995 April 1996 December 1996 September 1997 November 1998 February 2000
Kurt Kless, MSN, MBA, RN, NE-BC Chief Nursing Officer	
Date	
Ken Fry Assistant Chief Nursing Officer	
Date	

Deepak Malhotra, MD, PhD Clinical Director, End Stage Renal Disease Program Date *Review/Revision Completed by:* Assistant Chief Nursing Officer	February 2000 July 2002 July 2003 July 2005 November 2006 June 2007 January 23, 2008 August 2011 August 2014 October 2015 May 2018 June 2022 Next review date: