Standard Operating Procedure for managing Blood Borne Viruses on Haemodialysis

1. Overview

The aim of this SOP is to prevent transmission of Blood Borne Viruses (BBV) between patients and or staff within the haemodialysis unit

2. SOP Governance

Department: Renal | **No of pages**: 5 | **Version & Date**: V1 18.11.2023

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Frequency and Time frame: Next review set after national guidelines review planned for June 2024. Thereafter review can be every 3 years or after next national guidance whichever is the sooner.

3. Key indicators, output or purpose from this procedure

BBV can spread on haemodialysis units. The strategy to minimise this revolves around herd immunity against hepatitis B for both staff and patients, vigilance around detection of BBV especially before a patient starts dialysis and after foreign travel and consequent appropriate patient and machine isolation of those infected or at high risk of becoming infected.

Ongoing audits will be as per national recommendations detailed in

https://ukkidney.org/sites/renal.org/files/FINAL-BBV-Guideline-June-2019.pdf page 16

This SOP is for use in the renal units in Derby and Lichfield.

Essential reading for: Registered Renal Nurses working on the haemodialysis units in Derby and Lichfield. Medical staff working in the renal speciality who manage the care of haemodialysis patients

Information for: All clinical staff working in the renal speciality.

Training and support will be provided by senior sisters and educators on the dialysis unit during morning handover and team time out days. Further training and education will be supported by haemodialysis consultants during ward rounds and HD MDT.

4. Data Source(s)

The procedures detailed are based on the national guidance found at

https://ukkidney.org/sites/renal.org/files/FINAL-BBV-Guideline-June-2019.pdf

This SOP is to be read in conjunction with: SOP for Hep B Vaccination, SOP for equipment isolation stored in renal shared drive.

Details for: Hepatitis B vaccine Renal Patient Group Direction (PGD) › Trust Policies Procedures & Guidelines catalog (koha-ptfs.co.uk)

Management of blood borne virus infection detected using this SOP should be based on trust guidelines:

Details for: Hepatitis B - Clinical Guideline › Trust Policies Procedures & Guidelines catalog (koha-ptfs.co.uk)

Details for: Hepatitis B - Prevention of Hepatitis B Reactivation During Immunosuppressive Therapy - Clinical Guideline › Trust Policies Procedures & Guidelines catalog (koha-ptfs.co.uk)

Details for: Hepatitis C - Clinical Guideline › Trust Policies Procedures & Guidelines catalog (koha-ptfs.co.uk)

Details for: HIV Referral Pathway - Summary Clinical Guideline - Derby Sites Only › Trust Policies Procedures & Guidelines catalog (koha-ptfs.co.uk)

5. Process

Prior to first session:

Determine whether patient is infected with a BBV and therefore at risk of infecting other patients.

Hepatitis B is the most infectious BBV and therefore any patient on HD found to have Hepatitis B infection will need to be dialysed in isolation on their own isolated machine.

Some patients known to renal before starting dialysis will have been vaccinated against hepatitis B.

Initial panel of bloods *(order set Renal LCC Virology)*

Blood test	Interpretation
HIV RNA (HIV blood)	Current HIV infection
Anti Hepatitis C Antibody	Current infection with hepatitis C - will need Hepatitis C RNA to determine viral load
Hepatitis B Surface Antigen Screen (HBsAg)	This patient is infected with hepatitis B and will need isolation and segregated machine
Anti Hepatitis B surface Antibody (HBsAb)	>100 = immune (e.g. after vaccine)
Anti Hepatitis B core Antibody (HBcAb)	Recent / latent infection - may become positive

Please look through these results at the first session and update the data sheet on vital data to include their virology. The results need to be highlighted during the first HD review to their named consultant.

If patients are dialysed before their BBV results are known the patient should be isolated and the machine should not be used on another patient until their results are known and negative.

If patients are not immune to hepatitis (HBsAb < 100) please highlight this to the Hep B vaccine nurse

Routine monitoring

The purpose of routine monitoring is to make sure people who have been previously negative for Hepatitis B, HIV and Hepatitis C do not become positive. We are also monitoring immunity after vaccination as this can fall in haemodialysis patients.

Renal pre-dialysis 3 monthly	Interpretation
Hepatitis B Surface Antigen Screen (HB sAg)	This patient is infected with Hepatitis B and will need isolation and segregated machine
Renal pre-dialysis 6 monthly	
Hepatitis B Surface Ag Screen (HBsAg)	Hepatitis B infection
Hepatitis B surface Ab screen (HBsAb)	>100 = immune; < 100 refer Hep B nurse/ SOP
Hepatitis C virus Ab screen	Hepatitis C infection
HIV	HIV infection

It is the responsibility of the named nurse to review these results prior to the HD review after the 3 and 6 monthly bloods and discuss the results with the consultant.

Holiday dialysis considerations

There are still some countries in the world where BBV are more prevalent and dialysing whilst there runs the risk of contracting BBV. Following return from holiday precautions need to be taken to avoid spread of BBV within our own dialysis unit. Similarly for patients visiting our unit from abroad.

Check country list for risk of contracting BBV whilst receiving HD abroad against published BBV risk levels. (see table)

Prior to travel to intermediate or high risk country

Check Hepatitis B surface Ab screen (HBsAb). If fallen < 100 in a patient previously documented as a Responder to vaccination arrange a booster with the Hep B nurse. If the patient has never been vaccinated refer to the Hep B vaccine nurse to start vaccination. If Non-responder to previous vaccine course counsel the patient about the increased risk of contracting Hepatitis B whilst abroad.

Following return from travel / visit to UHDB dialysis unit from abroad check virology first dialysis session on return

	LOW RISK	INTERMEDIATE RISK	HIGH RISK
Country	• UK • Europe • US • Canada • Australia • New Zealand • Japan	• South East Asia • South America • Middle East • Rest of world	• India • Africa
Bloods required at first dialysis **and subsequent monitoring**	• Anti Hep C Antibody • HBsAg	• Anti Hep C Antibody - **every 2 weeks for 3 months** • HBsAg - **every 2 weeks for 3 months** • HIV RNA (HIV blood)	• Anti HepC Antibody - **every 2 weeks for 3 months** • HBsAg - **every 2 weeks for 3 months** • HIV RNA (HIV blood)
Isolation	**NO**	**NO** if initial screening negative	**YES** until 3 month screening period complete
Own machine	**NO**	**NO** if initial screening negative	**YES** until 3 month screening period complete

Any patient who becomes positive for Hepatitis B Surface Ag Screen (HBsAG) HCV ab or HIV must be discussed with their consultant immediately. It is the responsibility of the named nurse to order and look through these results after their patients return from holiday. The monitoring should be highlighted to the consultants during rounds.

Dialysis of Patients with BBV

Patients found to be Hepatitis B surface Ag positive should have Hep B RNA sent they must be dialysed in a single room and their machine must be isolated for them only. Nurses caring for the patient should use full infection control precautions with PPE which is changed before caring for any other patient. Further treatment must be discussed with their consultant. **HBcAb +ve patients need to be discussed and will need enhanced monitoring** (monthly HBsAg) and/or treatment especially if they are immunosuppressed (IS). If on IS need own machine.

Patients known to be infected with HIV or Hepatitis C are ideally dialysed in isolation but if there is no space then they can be dialysed on the main unit provided maintenance of infection control precautions. The machine does not need to be isolated but should have a full A and C disinfection procedure after each dialysis. Again treatment should be discussed with their consultant.

6. Validation Checks

These might be included within the process in (5) above, but validation of data is absolutely critical, so suggest that there should be a description of validation checks required that recaps checks within the process above, and might also add further checks to be completed on the final data set

7. Sign off (separation, supervision, authorisation)

Stage/ purpose	Name and role	Date (how/ where evidenced)
Peer review:	XXX	XXX
Supervisor/ Lead review:	XXX	XXX
Information Asset Owner/ Trust Lead:	XXX	XXX

8. Information Governance

Record details of any IG considerations and approvals – for example, are data flows identified and documented, are information sharing agreements in place where applicable, is there a need for DPO advice, is the purpose and legal basis for processing and sharing clear?

9. Export/ use of data

Detail where/ how the information is to be used/ shared/ uploaded or exported. Include any specific considerations such as the format and whether there is a need for password protection

10. Detailed Instructions

ⓘ 1 – How to xxx

Set out detail

ⓘ 2 – How to xxx

Set out detail