1. Introduction and Who Guideline applies to

There is an increased risk of acquisition of a blood borne virus (BBV) infection when patients have received dialysis abroad unless the country and individual risk assessment indicates a low risk.

Patients who choose to travel to high risk countries and have dialysis should be made aware of this risk. At least 6 patients from Leicester have developed acute hepatitis C or B following dialysis in high risk countries. This causes considerable morbidity, is expensive due to cost of antiviral drugs (which is not always successful), risks long terms risk of cirrhosis/liver cancer and leads to suspension from the transplant list.
This guideline covers:-
• Guidance and information to be given to patients who are travelling to high risk countries where they will have haemodialysis treatment
• Provision of consumables to these patients
• Guidelines on isolation and surveillance for new BBV infection on return to the UK

This guideline is for use by clinical staff in managing haemodialysis patients who are travelling to or returning from a country with a high prevalence of BBV infections

Clinical guidelines are 'guidelines' only. The interpretation and application of clinical guidelines will remain the responsibility of the individual practitioner. If in doubt consult a senior colleague or expert. Who it applies to, does it cover all staff, specific groups of staff or specific patient groups.

This guideline links to guideline 'Blood borne viruses(BBV) in patients receiving renal replacement therapy (RRT)' which gives further detail with regard to precautions for suspected BBV.

2. Guideline Standards and Procedures

2.1 Advice to patients who are travelling to high risk countries

2.1.1 Patients who are travelling to high risk countries should be warned about the risks of BBV infection acquired during dialysis abroad.
2.1.2 Hepatitis B vaccination status should be checked:-
• Patients who have been vaccinated and have developed measurable Hep B Ab should be offered a booster dose post dialysis.
• Patients who have never been vaccinated should be offered a full course of vaccination On the dialysis unit.
• Patients who have been vaccinated and have NOT developed measurable Hep B Ab should be advised that they are at increased risk of Hep B.

2.1.3 All patients should be provided with information leaflet regarding risk of dialysing in high risk countries (appendix 1)
2.1.4 Patients should also be advised to have any other vaccinations or treatment (e.g. malaria prophylaxis) recommended by travel health experts for their destination country
2.1.5 If possible determine the holiday units BBV policy and practice before holiday is booked (appendix 2).

2.2 Provision of consumables for dialysis

2.2.1 UHl have agreed that patients travelling to high risk countries for dialysis will be provided with dialysis needles and dialysers. Where the patient is able to provide written evidence that the receiving unit is using machines UHL has lines for, blood lines should also be provided. This is to reduce the risk associated with reuse which is practiced in some countries.
2.2.2. Up to a maximum of 6 weeks supply can be provided in any financial year. The patient will be responsible for transportation of these materials including the cost of transport.
2.2.3 Where patients are unable to take the consumables, they should be encouraged to ensure that

sterile consumables are used in the receiving dialysis unit even if this involves an extra charge.

2.3 Guidance on isolation and surveillance for new BBV infection on return to the UK

2.3.1 UHL now has access to highly sensitive virology testing. As a result, as long as the required blood tests are sent to UHL for testing the isolation period can now be reduced in line with the updated DH advice (DH, 2010), see algorithm below. This is also dependant upon an individual risk assessment (appendix 3) which must take place to determine the risk of contracting a BBV. The requirement recognised that there is no definitive list categorising the risk in all dialysis units in all countries and therefore a risk assessment is a necessity on the patients return.

2.3.2 All staff must take adequate precautions to prevent/minimise the spread of infection within haemodialysis areas. This is achieved through the use of standard precautions and isolation of machine and patient when appropriate. Please see guideline Blood borne viruses(BBV) in patients receiving renal replacement therapy (RRT) for further detail.

2.3.3 Evidence (DH,2010) and experience have shown that the relative rarity of HBV infection can lead to lapses in good infection prevention techniques and so it is helpful to reinforce these regularly. Isolation of Hep B positive patients and their machines has been shown to reduce the risk of Hep B infection spread to the main population in HD units. Although blood may not be visible on surfaces, HbsAg may be present on contaminated surfaces and may be a source of Hep B virus infection. It is therefore important to ensure all equipment used by these patients is cleaned using Chlorclean or equivalent and that standard precautions are used and the machine is dedicated throughout the period the patient is in isolation.

2.3.4 All patients returning from dialysis abroad will need to be in isolation until negative CRO and MRSA results are returned.

2.3.5 Please follow algorithm below when determining length of time for isolation and required blood tests.
This shortened algorithm is applicable when blood is tested at UHL which has close access to a virology diagnostic service equipped to provide a prompt turnaround of modern, sensitive testing methods and if the dialysis unit itself can ensure rigorous adherence to the specific timing requirements of this algorithm. The safe implementation of the algorithm is entirely dependent on being able to pick up a new infection at an early stage (in effect, as soon as the virus appears in the peripheral blood) when the viral load is low and the risk of onward transmission is also low.

Alternative algorithm for blood borne virus (BBV) testing following dialysis away from base (DAFB) For units with the diagnostic and organisational facility to implement this algorithm safely (please see note above on sensitive testing methods)	
Low risk countries (e.g. UK, Europe[1], US, Canada, Australia, New Zealand and Japan)	**Rest of the world**
Continue regular testing for HBV/HCV in line with DH guidance for UK units, i.e. testing for HBsAg at least every three months and ideally monthly; testing for HCV Ab every three months; and testing for HIV if indicated by a risk assessment	Test for HBV/HCV on return (the test for HCV should be a sensitive combined HCV Ab/Ag or HCV RNA). Screen for HBV/HCV every week for one month. Only include HIV if risk assessment merits.
Patient does not require isolation/ segregation when dialysing once the initial 'on return' tests (e.g. CRO, MRSA) are known to be negative.	Patient does not require segregation/ isolation when dialysing once the initial 'on return' tests are known to be negative and will only require segregation if BBV tests are positive.
Review transplant status and agree on case-by-case basis on requirement for suspension from transplant list.	Patients who dialyse in high risk units/ countries should be suspended from the transplant list for two months and only reactivated when the two-month virology screening results are negative.

[1] Local risk assessment may indicate that some European countries may be regarded as intermediate risk.

2.3.6 If bloods cannot be sent to UHL for the more sensitive tests then the following algorithm should be followed:

Algorithm for blood-borne virus (BBV) testing following dialysis away from base (DAFB)		
Low risk countries (e.g. UK, Europe[1], US, Canada, Australia, New Zealand and Japan)	**Rest of the world (Intermediate risk e.g. South East Asia, South America, Middle East)**	**High risk countries (e.g. Indian subcontinent, Parts of Africa)**
Continue regular testing for HBV/HCV in line with DH guidance for UK units, i.e. testing for HBsAg at least every three months and ideally monthly; testing for HCV Ab every three months; and testing for HIV if indicated by a risk assessment.	Undertake BBV risk assessment[2] If dialysis abroad considered to have high risk features, move to high risk category. Screen for HBV/HCV on return and every two weeks for two months (the test for HCV should be a sensitive combined HCV Ab/Ag or HCV RNA). Only include HIV (Ag/Ab or HIV RNA) if risk assessment merits.	Test for HBV/HCV on return (the test for HCV should be a sensitive combined HCV Ab/Ag or HCV RNA). Segregate patient and isolate dialysis machine for two months.
Patient does not require segregation when dialysing.	Patient does not require segregation when dialysing once the initial 'on return' tests are known to be negative.	Screen for HBV/HCV every two weeks for two months. Only include HIV if risk assessment merits.
Review transplant status and agree on case-bycase basis on requirement for suspension from transplant list.	Patients who dialyse in intermediate risk countries should remain suspended from the transplant list until the initial serology results for HBsAg, HCV (Ag/Ab or HCV RNA) and HIV (Ag/Ab or HIV RNA) are found to be negative	Patients who dialyse in high risk units should be suspended from the transplant list for two months and only reactivated when the two-month virology screening results are negative.

[1] Local risk assessment may indicate that some European countries may be regarded as intermediate risk.
[2] Local risk assessment for individual cases.

2.3.7 Please order post holiday virology tests in ICE if possible, if this is not possible the tests will need to be labelled as 'post holiday testing'. 1 x serum and 1 x EDTA UHL blood bottles will need to be supplied. Units outside Leicester will need to arrange to send these to UHL via post or the warehouse drivers. If units use their local laboratory assurance will need to be given and approved by UHL before the 'alternative' algorithm in 2.3.5 can be used. Otherwise the algorithm in 2.3.6 must be used.

3. Education and Training

All HD nursing and medical staff need to be aware of this policy

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Number of patients dialysing abroad per year and requirements for isolation	Audit	Unit leads	annual	
Incidents of hepatitis B/C seroconversion	Datix incidents	Unit leads	Ad hoc	Datix

5. Supporting References (maximum of 3)

NHS England (2016) *Commisioning policy: Dialysis Away From Base.*

Department of Health (2010) Good Practice Guidelines for Renal Dialysis/Transplantation Units
Prevention and Control of Blood-borne Virus Infection. Addendum: Guidelines for dialysis away from base (DAFB)
NHS Englad (2013) A06 Renal Service Specification: In Centre Haemodialysis (ICHD): Main and Satellite Units

6. Key Words

DAFB, Holiday dialysis, Haemodialysis, Peritoneal dialysis

CONTACT AND REVIEW DETAILS	
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Guideline updated by: Suzanne Glover Deputy Head of Nursing	
Details of Changes made during review: **Changes made 2016;** Updated to new template and simplified **Changes made 2019:** Removed list of low risk countries (WHO 2001). Identified need for risk assessment. Changes made to length of time in isolation/ need for isolation in line with 2010 Addendum. Tables from this included. Patient information sheet updated with approved leaflet. Holiday paperwork appendix removed. Inclusion of indivisual risk assessment. Reduced suspension from transplant list	

Appendix 2

Infection Prevention Checklist for Haemodialysis Units

Point 1: We carry out heat disinfect at the start of the day and after every treatment on all patients.
How often do you carry out heat disinfect on your machines?

	After each patient use	Start of the day	End of the day	Blood leak
Non – infective patient	Y / N	Y / N	Y / N	Y / N
HBV positive	Y / N	Y / N	Y / N	Y / N
HCV positive	Y / N	Y / N	Y / N	Y / N
HIV positive	Y / N	Y / N	Y / N	Y / N

How often do you externally clean your dialysis machines?

	After each patient use	Start of the day	End of the day	Blood leak
Non – infective patient	Y / N	Y / N	Y / N	Y / N
HBV positive	Y / N	Y / N	Y / N	Y / N
HCV positive	Y / N	Y / N	Y / N	Y / N
HIV positive	Y / N	Y / N	Y / N	Y / N

What cleaning agent do you use to clean your machines externally? ……

Point 2: If the machine is at risk from internal contamination following a blood spillage we withdraw the machine and it is internally cleaned by the technical department.
What do you do?

Point 3: All our patients with Hepatitis B are managed in a side room with a dedicated machine.
What do you do?

Separate dedicated unit with separate staff	Y / N
Have their own dedicated machine	Y / N
Dialysis unit, side room	Y / N
Dialysis unit, main area with non-infected patients	Y / N
Comments	

Point 4: All our patients with Hepatitis C or HIV are dialysed in a side room or separate area from non infected patients.
What do you do?

Point 5:
All our patients are routinely screened for Hepitits B/C every three months and for HIV when they start dialysis.

What do you do?

Point 6: We aim for a 1:3 nurse to patient ratio. How many nurses and care assistants do you have on per shift and how many patients?

Point 7: How many patients do you have with Hepatitis B in your unit?

0	
1-10%	
10-25%	
Over 25%	

Point 8: How many patients do you have with Hepatitis C in your unit?

0	
1-10%	
10-25%	
Over 25%	

Point 9: How many patients do you have with HIV on your unit

0	
1-10%	
10-25%	
Over 25%	

Other useful information.
What dialysis machines do you use? ……..

What languages do the nurses on your unit speak?

Name of unit…….

Address…….

…….

Name of Holiday Co-ordinator …….

Signature……..

Appendix 3

Individual risk assessment

Patient name
Patient HBsAg status
Patients HBsAb status
Last vaccination date
Date of holiday
Location of holiday
Holiday unit BBV assessment No Concerns raised/ no assessment/ Concerns
How many dialysis sessions whilst abroad.
Were all in the same unit
Were you happy with the practices/cleanliness of the unit
Did you require and surgery or dental treatment whilst abroad
Did you require hospital attendance or admission whilst abroad
Were any needles, dialysis lines or dialysers shared between you and any other patients
Do you have haemophilia?
Did you have a transplant abroad?
Please declare if any high risk activity took place Yes/No
(examples include sexual activity with local resident or other tourist from high risk area, use of recreational IV drugs, getting a tattoo done etc).

Once completed please assess with medical staff and IP to determine risk level and relevant testing and precautions.