

1. Introduction and Who Guideline applies to

This procedure has been written for all haemodialysis competent renal care assistants, nurse associates and registered nursing staff involved in the commencing and terminating of routine chronic HD/HDF treatments (completed LCAT competency assessment in commencement of haemodialysis).

This guideline is for the use of all suitably qualified registered nurses, nurse associates and advanced healthcare assistants, who have achieved competency in commencing and terminating HD/HDF treatment.

2. Guideline Standards and Procedures

All qualified registered nurses, nurse associates and renal healthcare assistants performing this process must have achieved LCAT competency assessment HD 3.3 in HD/HDF treatment and follow the principles of Aseptic non touch technique (ANTT) and the 5 moments of hand hygiene throughout this process.

Protective personal equipment (PPE) should be used as appropriate, i.e., gloves, visors, aprons etc.

High Impact Interventions saving life's care bundle (HII) are to be adhered to:

The HIIs are an evidence-based approach that relate to key clinical procedures or care processes that can reduce the risk of infection if performed appropriately. They have been developed to provide a practical way of highlighting the critical elements of a particular procedure or care process (a care bundle), the key actions required and a means of demonstrating reliability.

2.1 Principle of ANTT:

Non-touch technique is where the clinician's hands do not touch and thereby contaminate key parts and key sites.

Any key part must only come in contact with other key parts (i.e. syringe tip with needle hub)

The Key Principles of ANTT are:

- a) Always clean hands effectively
- b) Non Touch Technique Always – Consider appropriate Personal Protective equipment
- c) Take appropriate equipment precautions – clean equipment
- d) Take Appropriate Steps to Protect Key parts at all times

The EPIC 3 guidelines (2013) and NICE clinical guidelines (2012) endorse the use of ANTT as a framework for standardisation of safe aseptic practice.

2.2 Key Parts Definition:

Key parts are the sterile components of procedure equipment.

A key site is any insertion or access site or wound that is connected to, or is part of the patient.

Key parts and key sites must be identified and protected at all times

Key parts must only come into contact with other key parts and /or key sites.

2.3 Aseptic Field.

Aseptic fields are important in providing a controlled aseptic work space to maintain the integrity of key parts and key sites during clinical procedures.

The field must be managed to ensure the key parts and key sites are protected and should be prepared as close to the time of actual use.

Clean the tray/trolley with the appropriate UHL approved high level disinfectant wipe and **allow to dry**, (if the surface remains wet then asepsis is compromised) before placing any items in or on the tray/trolley.

2.4 Preparation Phase For All Access Types:

Patient preparation - all to be completed prior to commencing the connection phase:

- Patient identity checked
- Weight, EWS.
- Fluid assessment
- Calculate fluid removal & check with patient
- Enter prescribed dialysis time and ultrafiltration goal into the HD machine
- Have tourniquet ready if required
- All other relevant machine and patient specific checks that may be required.
- Ensure dialysis lines have been correctly primed, visibly check venous bubble trap is primed and venous line has no air present prior to connection to the patient.
- Check machine against dialysis prescription prior to connection – see Policy for checking haemodialysis and haemodiafiltration prescription for acute and chronic dialysis.
- Don apron, mask, visor or safety glasses.

2.5 Tunnelled Access – Registered nurses and Nurse Associates

2.5.1 Equipment Required For Commencing Treatment With Permcath:

- On /off sterile line pack
- 2 x 5ml luer lock syringes (to withdraw lock)
- 2 x10ml luer lock syringes (to flush lumens)
- 2 x10ml ampoules of saline 0.9%
- 2 x sharp safe needles
- Waterproof backed sterile field x 2 if not in the pack
- Sterile gloves if not contained in the pack
- 2% chlorhexidine and 70% alcohol device cleaning wipes for catheter bungs.

2.5.2 If Permcath Dressing Needs Changing:

Chlorprep* 2% chlorhexidine and 70% alcohol sponge applicator to clean Permcath exit site

If sensitive to above* UHL appropriate povidone-iodine alcoholic tincture to clean exit site.

Appropriate sterile film dressing or appropriate alternative if sensitive to film.

2.5.3 Patient Connection: Permcath

- Perform hand hygiene
- Don apron
- Disinfect tray/trolley using a 2% chlorhexidine/70% alcohol disinfectant wipe
- Perform hand hygiene
- Open sterile equipment using a non-touch technique ensuring it is not contaminated by external packaging
- Perform hand hygiene
- Put on gloves

- Ask patient to apply mask
- Place 2 x sterile towel under permcath lumens
- Decontaminate needlefree connector on end of permcath using 70% alcohol and 2% chlorhexidine wipes.

- Discard upper sterile field, leaving one in place
- Allow to dry - if not dry then not aseptic
- Aspirate lock from both lumens
- Flush both lumens with N/Saline 0.9% using 10ml syringes
- Connect patient to the haemodialysis machine
- Discard all sharps
- Perform hand hygiene before leaving the patient area
- Complete all documentation in patient notes
- Ensure anticoagulation is administered within 30 minutes.
 - Nurse associate or registered nurse may administer prophylactic dose of low molecular weight heparin (LMWH).
 - Unfractionated heparin must only be administered by a registered nurse
- Ensure second check is completed within 30 minutes by registered nurse or nurse associate (all patients must have at least one check by a registered nurse)

2.5.4 Equipment Required For Terminating Treatment With A Permcath:

- On /off sterile line pack
- Sterile gloves (if not in pack)
- Waterproof backed sterile field
- 2 x 10ml luer lock syringes
- 2 x 10ml ampoules of saline 0.9%
- 2 x 2% chlorhexidine and 70% alcohol device cleaning wipes for catheter bungs.
- Sharp-safe needles (for drawing up)
- Locking agent as prescribed
- Needlefree connector if required (changed once weekly)
- 2 x Disinfectant end caps
- Recirculator

2.5.5 Patient Disconnection: Permcath

- Perform hand hygiene
- Apply apron, mask and visor
- Disinfect tray/trolley using a 2% alcohol /70% chlorhexidine disinfectant wipe
- Open sterile equipment using a non-touch technique
- Perform hand hygiene
- Put on gloves
- Place sterile towels under permcath lumens
- Perform hand hygiene
- Decontaminate points of connection between permcath and dialysis lines using 70%

chlorhexidine and 2% alcohol.

- Discard upper sterile field, leaving one in place
- Disconnect arterial line and attach 10ml syringe with N/saline 0.9% to permcath lumen. Connect dialysis line to saline/safeline for wash back, ensuring not to touch any key parts
- Commence wash back, **maintaining ANTT principles.**
- Disconnect venous line and attach 10ml syringe with N/Saline 0.9% to permcath lumen.
- Flush both lumens with N/Saline and administer lock (as prescribed) to both lumens.
- Connect disinfection end caps to both lumens.

- Discard sharps
- Clean tray/trolley and clean patient area using chlorclean or high level disinfectant wipes.
- Remove gloves and perform hand hygiene
- Complete all documentation, sign medication, record observations in patient notes (EWS & lying/sitting and standing BP or lying and sitting if not ambulant)

2.6 Fistula and Graft – Haemodialysis Competent Registered Nurses, Nurse Associates and Care Assistants

2.6.1 Equipment Required For Commencing Treatment With An AVF:

- Sterile on /off pack
- 2 x AVF needles as per prescription
- 2 x luer lock syringes
- 2 x sharp-safe needles
- 2 x 10ml ampoules of saline 0.9%
- 2 x*2% chlorhexidine and 70% alcohol skin cleaning wipes.
- If sensitive to above* UHL appropriate povidone-iodine alcoholic tincture to clean puncture site.
- Appropriate sterile tape or dressing to secure needle.

2.6.2 Patient Connection – AVF/Graft:

- Perform hand hygiene. Don apron and visor (if using safety glasses also apply mask)
 - Clean tray/trolley using a 2% alcohol/70% chlorhexidine high level wipe
- Perform hand hygienePrepare all equipment

- Assess access, Look listen feel. Palpate sites prior to cleaning needling area.
- Clean areas to be needled (key-sites) with 2% chlorhexidine and 70% alcohol skin cleaning wipes. Allow to dry (if not dry then not clean).
- Insert AVF needles, secure and flush
- Connect patient needles to patient dialysis lines and commence dialysis treatment as per prescription.
- Needles should be taped ensuring the wings of the needles are securely held down and a cross over tape is applied.
- Discard all equipment appropriately.
- Perform hand hygiene.
- Complete all documentation
- Ensure anticoagulation is administered within 30 minutes.
 - Nurse associate or registered nurse may administer prophylactic dose of low molecular weight heparin (LMWH).
 - Unfractionated heparin must only be administered by a registered nurse
- Ensure second check is completed within 30 minutes by registered nurse or nurse associate (all patients must have at least one check by a registered nurse)
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2.6.3 Equipment Required For Discontinuing Treatment With AVF & graft

- Off sterile pack
- 2% chlorhexidine and 70% alcohol device cleaning wipe if required.
- Recirculator
- Plasters for needle sites or alternative if sensitive

2.6.4 Patient disconnection: AVF/Graft

- Perform hand hygiene
- Apply PPE - mask & Visor (mask required if using safety glasses)
- Clean trolley using a 2% alcohol/70% chlorhexidine high level disinfectant wipe
- Perform hand hygiene
- Prepare equipment
- Clean connection points if required, washback patient.
- Remove venous needle/apply plaster.
- Once haemostasis achieved remove arterial needle.

2.7 Completion Phase For All Access Types

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- Complete all documentation, sign medication, record observations in patient notes (EWS & lying/sitting and standing BP or lying and sitting if not ambulant)
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- Ensure patient weighs and complete all documentation.

3. Education and Training

Non-registered nurses and registered nurses should have successfully completed the competencies and LCAT assessments identified in unit 3 of the UHL Renal Nurse Development Programme, or equivalent.

Non-registered nurses and registered nurses should have read the BRS Cannulation guidelines

UHL Trust ANTT e-learning must be current.

Hand Hygiene e-learning must be current.

Annual ANTT LCAT assessment is required

4. Monitoring Compliance

Key Performance Indicator	Method of Assessment	Frequency	Lead
Number of incidents of MSSA/MRSA bacteraemia	Monthly/ three monthly swabs for haemodialysis patients	Monthly/three monthly	matron
Number of incidents reporting errors in dialysate prescription/administration	Monitor Datix incident reports	As reported	Matron

5. Supporting References (maximum of 3)

UHL Aseptic Non Touch Technique (ANTT) Guidelines (2015)

Epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England- A.Bak, A.Browne, R.J. Pratt,C.M. Pellowe,J.Prieto,H.P. Loveday, M.Golsorkhi, A.Tingle, J.A. Wilson , Journal of Hospital Infection (2013) 65S, S1–S64 available from http://www.his.org.uk/files/3113/8693/4808/epic3_National_Evidence-Based_Guidelines_for_Preventing_HCAI_in_NHSE.pdf

UHL Hand Hygiene Policy B32/2003 (2015)

6. Key Words

Haemodialysis, Haemodiafiltration, Commencing. Terminating, ANTT

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) Suzanne Glover	Executive Lead
Details of Changes made during review: Inclusion of role of nurse associates	
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