Dialysis: hand hygiene practice audit guidelines

Background

During dialysis there is a risk of direct introduction of pathogens into a patient's bloodstream. Effective hand hygiene immediately prior to performing any procedure is the single most effective way to minimise the risk of transmission of microorganisms.

As processes may be specific to each dialysis unit and each individual patient, these guidelines should be followed for hand hygiene during dialysis, although some local adaptation may be required.

Key considerations and guiding principles

1 Establishing an aseptic field

Dialysis requires the establishment of an aseptic field for the procedure.
An aseptic field can be established using a tray, trolley or designated work surface.
To ensure an aseptic field is appropriately established the following must apply:

- Hand hygiene must be performed before establishment of an aseptic field
- The surface of the trolley/designated work surface must be completely clear of any items
- The surface of the trolley/ designated work surface must not become contaminated at any time during any procedure
- The surface of the trolley/ designated work surface must be appropriately cleaned prior to each new procedure, and prior to placing equipment on it.

2 Preparation of equipment

- Hand hygiene must be performed before preparation of equipment
- Packets should be checked for integrity and expiry dates
- Gather and prepare all equipment, including local anaesthetic and anti-coagulant (as required), and tapes for the procedure *before* touching the patient
- Equipment is only opened and prepared when the patient is in their dialysis bed/chair

3 Preparation of the machine

- Hand hygiene must be performed before lining and set up of the dialysis machine
- The dialysis machine becomes the "patient" after connection; as a result hand hygiene should be performed before and after touching the machine, but will not be required between touching the machine and touching the patient (as they are considered a single entity).

4 Preparation of the patient:

- Hand hygiene must be performed before preparing the patient.
- Hand hygiene must be performed again and gloves donned immediately before commencement of any procedure.

5 Needle Site

Hand hygiene must be performed immediately before and after any manipulation or adjustment of the fistula needles or central venous catheter.

6 Glove Use

- Gloves are not required for set up of the machine.
- Gloves should not be applied (unless otherwise indicated) until hand hygiene has been performed immediately prior to performing the procedure.
- If gloves are required earlier (for example, transmission-based precautions) these will need to be removed, hand hygiene performed, and a new set of gloves applied immediately prior to the procedure.
- If at anytime there is blood on gloves, immediately remove gloves, perform hand hygiene and apply new gloves.

7 Additional Equipment

If additional equipment is required after the patient has been touched or gloves applied, gloves must be removed (if worn) and hand hygiene performed before touching the clean stock.

8 Cleaning between each patient

Any shared equipment must be cleaned between every patient.

Method

Cannulation and Connection

1. Perform Hand Hygiene (M1)
2. Greet patient and start patient preparation, check patient observations, document in chart
3. Set the parameters on the machine
4. Perform Hand Hygiene (M2)
5. Set up aseptic field & all equipment required for connection to dialysis
6. Loosely apply patient individual tourniquet (if required) and complete patient access assessment
7. Cleanse key site (planned puncture site) with swab
8. Don face shield and apron/gown if not already on
9. Perform Hand Hygiene (M4 & M2)
10. Don gloves, administer local anaesthetic (if required)
11. Tighten tourniquet **(Please see additional notes regarding tourniquet contamination.)**
12. Cannulate or commence CVC procedure
13. Connect to bloodlines and start blood pump
14. Administer anti-coagulant as required

15. Tape bloodlines
16. Clear waste and remove gloves
17. Perform Hand Hygiene (M3 & M1)
18. Adjust machine
19. Check patient observations and document in chart
20. Remove PPE when leaving the patient
21. Perform Hand Hygiene (M4)

During dialysis

1. Perform Hand Hygiene (M2)
2. Prepare IV, IM, SC medications as required
3. Perform Hand Hygiene (M2)
4. Administer IV, IM, SC medications as required, and dispose of waste, or manipulation or adjustment of the fistula needles or CVC
5. Perform Hand Hygiene (M3 and M1)
6. Check patient observations, or touch patient/machine in any way & document in charts
7. Perform Hand Hygiene (M4)

Disconnection

1. Perform Hand Hygiene (M2)
2. Set up aseptic field & all equipment required for disconnection from dialysis
3. Prepare patient
4. Don face shield and apron/gown if not already on
5. Perform Hand Hygiene (M4 and M2)
6. Don gloves
7. Commence runback and disconnection procedure as per options below -

    Disconnection Procedure Option 1

    Disconnect bloodlines

    Remove fistula needles, immediate disposal into sharps container

    Remove bloodlines and immediate disposal into clinical waste bin

    Remove gloves

    Perform Hand Hygiene (M3)

Disconnection Procedure Option 2

Disconnect and remove bloodlines and immediate disposal into clinical waste bin

Remove gloves

Perform Hand Hygiene (M3 and M2)

Don gloves

Remove fistula needles, immediate disposal into sharps container

Remove gloves

Perform Hand Hygiene (M3)

Site review and discharge

1. Don face shield and apron/gown
2. Perform Hand Hygiene (M1)
3. Don gloves
4. Check needle site for bleeding apply appropriate dressing
5. Remove face shield, apron and doff gloves
6. Perform Hand Hygiene (M4 [or M3 if potential blood exposure] and M1)
7. Perform patient observations and documentation for patient discharge
8. Clean patient environment
9. Perform Hand Hygiene (M4)

Additional notes

Tourniquets

- Tourniquets should be dedicated to each dialysis patient and stored individually.
- Tourniquets have the potential to become highly contaminated; tourniquets are non-critical items that require thorough cleaning between uses.
- Touching an applied tourniquet after performing hand hygiene can re-contaminate the user's hands (with the patient's own skin flora); a tourniquet could be tightened with gauze to limit contamination.

This resource was originally developed by Hand Hygiene Australia under a contract with the Australian Commission on Safety and Quality in Health Care for coordination of the National Hand Hygiene Initiative.