

Ongoing Care of a Renal Dialysis Catheter

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

INTRODUCTION

Renal patients requiring dialysis via a Renal Dialysis Catheter (RDC) are at high risk of blood stream infections. The Renal Registry (2008) reported that such patients are 800 times more susceptible to contracting MRSA than the normal public. Although this underlining risk of infection is related to uraemia, the increased exposure to hospital environments and to the type of renal replacement therapy also contribute to the problem. The use of renal dialysis catheters is the most common contributor to bacteraemia's in dialysis patients.

THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUPS :

Registered nurses trained, assessed and found competent in caring for a renal dialysis catheter only.

Lead Clinician(s)

Alison Shelton

Dialysis Unit Manager

Reviewed with no amendments on:

25th July 2013

Extension approved by Trust Management Committee on:

22nd July 2015

Review Date:

8th April 2020

This is the most current document and is to be used until a revised version is available

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Key amendments to this Document:

Date	Amendment	By:
May 2010	Guideline approved by	Clinical Effectiveness Committee
25/07/2013	Guideline reviewed and approved by	Dr Martin Ferring
07/08/2015	Document extended for 12 months as per TMC paper approved on 22 nd July 2015	TMC
14/11/16	Further extension as per TMC 22 nd July 2015	TMC
October 2017	Document extended for two years with no changes	Dr Martin FERRING
January 2020	Document extended for three months whilst under approval process	Dr Martin Ferring

Introduction

Patients with renal disease requiring renal replacement therapy are at the highest risk of contracting blood stream infections. Those with a RDC are 800 times more at risk of acquiring MRSA, than those with an arteriovenous fistula which are 100 times more vulnerable than the normal public. General access sepsis rates also state RDC as high risk. AVF rates are 2.5 per 1000 dialysis sessions against RDC (permanent) at 13.6 and temporary RDC at 18.4 per 1000 dialysis sessions. The prevention of all HCAI is everyone's responsibility. The NHS and government have prevention and control of healthcare associated infections (HCAI's) as their highest priority. Effective clinical prevention and control of practice are essential features in protecting patients and eradicating infection. Consistent best practice must be embedded into every day clinical care to minimise risks of HCAI's and patient safety. Training, adherence and auditing are essential in ensuring tight consistent compliance and bad sloppy practice must be eradicated.

Support for Development of the Guideline

The Department of Health has issued to Chief Executives, a number of harsh targets relating to reducing infection which must be met by their Trusts. To reinforce the government's commitment to reducing infection it has produced a number of documents to assist and support Trusts. Getting Ahead of the Curve, Winning Ways: working together to reduce healthcare associated infection in England (2003). Towards Cleaner Hospitals and Lower Rates of Infection; a summary action as guidance to reduce HCAI (2004). Saving Lives, a delivery programme to reduce healthcare associated infection including MRSA (2005). The Essential Steps to Safe Clean Care: reducing healthcare associated infection (2007) and the Health Act: Code of Practice for the Prevention and Control of Healthcare Associated Infections (2006).

The National Patient Safety Agency issued campaigns also to complement reducing infection with Clean your hands Campaign (2004) and EPIC 2: Updated National Evidence-based Guidelines for Preventing Healthcare Associated Infection (2007)

All of this evidence has produced agreed best practice standards which the West Midlands Senior Nurse Forum have signed up to on behalf of their Trust. This commitment pledges that every renal dialysis catheter intervention will be compliant and adhere to using such evidence and best practice standard procedures. Deviation and non concordance to best

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practice must be documented and investigated as to the reason for incurring possible risk and infection.

Details of the Guideline

This guideline will ensure consistent care is delivered to all patients with a RDC. Using the above detailed evidence the target and intention is to minimise blood stream infections, with zero infections as the goal.

The main aspects to ensuring infection rates are zero is strict adherence to hand decontamination and in the case of RDC strict aseptic procedures.

The guideline steps will be in two parts. Redressing the exit site of a RDC and Accessing a RDC. Both parts require achievement of competency before the tasks can be performed unsupervised.

Guideline Steps

This guideline must be carried out maintaining strict adherence to the principles of asepsis. Strict adherence to hand hygiene also applies before, during and after the procedure. 2% Chlorhexidine Gluconate in 70% Alcohol is the preferred solution as it provides rapid antimicrobial action and residual activity. If the RDC manufacturers recommendations prohibit the use of alcohol to be used on the tubing, hubs and luer connections, then Chlorhexidine Gluconate Aqueous solution should be used. For patients with sensitivity to Chlorhexidine a povidine-iodine product must be used. Where deviation from the standard CHG alcohol is not used, then this must be documented in the patients records as evidence and an incident report completed to log the event. If this deviation is a long term allergy issue and is confirmed as a true allergy via testing this must be documented in the patients notes and care plan.

Part 1

Redressing the exit site of a Renal Dialysis Catheter

Equipment required to clean and dress the exit site of a RDC

- Dressing trolley
- Apron
- Visor
- Tub of general detergent wipes
- Alcohol hard surface cloth
- Pair of non sterile gloves
- Pair of sterile gloves
- Sterile dialysis / dressing pack
- Chlora prep 2% applicator
- IV 3000 / Tegaderm dressing
- Disposal bag

Procedure steps to clean and redress the exit site of a RDC

- i) Explain procedure to the patient
- ii) Identify any sensitivities to equipment to be used
- iii) Record temperature

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- iv) Gather equipment
- v) Decontaminate hands
- vi) Clean all sides of trolley with detergent wipes, allow to dry.
Allow to dry
- vii) Don apron and visor
- viii) Prepare remaining equipment onto sterile pack.
- ix) Decontaminate hands and don non sterile gloves
- x) Remove old exit site dressing (taking care not to tug on catheter) and dispose and remove gloves.
- xi) Wash hands with soap and water using the 6 step hand decontamination technique, allow to dry thoroughly.
- xii) Don sterile gloves
- xiii) Examine exit site for and (according to exit site scoring tool)
 - o Redness
 - o Swelling soreness
 - o Oozing
 - o Crusting
 - o Pain
- xiv) If concerned swab exit site
- xv) Clean site using Chloraprep applicator with firm circular movements, working from the exit site outwards
- xvi) Allow to dry for 30 seconds
- xvii) Apply fresh IV 3000 / Tegaderm dressing and date with next due dressing date
- xviii) Check the lumen tube ends are still covered and secure.
- xix) Dispose of equipment safely and re clean trolley
- xx) Decontaminate hands
- xxi) Document in patients notes details of the procedure, next due date of dressing, exit site score and temperature.

Part 2

Accessing a Renal Dialysis Catheter

Equipment required to access, take blood samples and or lock off a RDC

- Dressing trolley
- Apron
- Visor
- Tub of general detergent wipes
- Alcohol hard surface cloth
- Pair of non sterile gloves
- Pair of sterile gloves
- Sterile dialysis / dressing pack
- Extra pack of gauze
- Disposal bag
- PDI – Chlorhexidine 2% in alcohol 70% wipes x 2
- 5ml syringes x 2 (for removing lumen lock)
- 5ml syringes x 2 (to flush lumens with saline)
- Syringes to take blood samples
- 2ml syringes x 2 (to lock lumens with lumen lock solution)

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- Green needle x1
- Lumen caps x 2
- Lumen locking solution (Heparin or an antimicrobial such as Dura lock)

Procedure steps to access, take blood samples and or lock off a RDC

- i) Explain procedure to the patient
 - ii) Identify any sensitivities to equipment to be used
 - iii) Record temperature
 - iv) Gather equipment
 - v) Decontaminate hands
 - vi) Clean all sides of trolley with detergent wipes, allow to dry before wiping with the alcohol wipe. Allow to dry
 - vii) Don apron and visor
 - viii) Prepare remaining equipment onto sterile pack.
 - ix) Review exit site in case it requires changing
 - x) Decontaminate hands and don non sterile gloves
 - xi) Remove gauze cover from ends of lumen hubs, using sterile new gauze drop lumens back down onto it. Remove gloves.
 - xii) Wash hands with soap and water using the 6 step hand decontamination technique, although to dry thoroughly.
 - xiii) Don sterile gloves
 - xiv) Place the waterproof sheet and absorbent sheet under lumens removing the piece of gauze
 - xv) Clean hub ends with PDI CHG 2% wipes (leave wipe wrapped around hubs)
 - xvi) Allow to dry for 30 seconds
 - xvii) Ensuring clamps are on, remove caps, attach 5ml syringe and with draw volume of locking agent and blood. Discard.
 - xviii) At this point blood samples can be taken (except INR) by attaching a fresh syringe
 - xix) Draw up 5mls sodium chloride 0.9% and flush each lumen ensuring a good flow is present. (If not then report to Doctor for synerkinase or RDC review)
 - xx) At this point either attach to dialysis machine using sterile gauze to touch lines, or lock each lumen.
 - xxi) To lock off lumens – flush each lumen again with a further 5mls sodium chloride 0.9%, and lock (using the pressure lock method) with the exact lumen catheter volume of prescribed Lumen Locking Solution drawn in a 2 ml syringe for each lumen
 - xxii) Ensure clamps are closed and attach new caps to ends of lumens.
 - xxiii) Wrap lumen ends with gauze to keep clean and avoid trauma.
 - xxiv) Dispose of equipment safely and re clean trolley
 - xxv) Decontaminate hands
- Document in patients notes details of the procedure and sign prescription.
 - Ensure the patient has a copy of and understands how to care for their renal dialysis catheter and who to contact if they are concerned (*Caring for your renal dialysis catheter*)

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Monitoring Tool

The guideline, training and achievement of competency will be assessed annually by the unit manager. Only trained staff will be permitted to handle, care and access RDC. This guideline is a mandatory requirement and must be applied consistently.

Staff will be also monitored on a monthly basis using the High Impact Intervention III renal dialysis catheter bundle review audit tool. Monitoring will be conducted by either the unit manager or the infection control link nurse who must be competent in the guideline.

Aseptic technique used during accessing and caring for a RDC, will be assessed annually as stated above.

When a blood stream infection occurs a root cause analysis will be conducted according to Trust policy and where necessary a review of staff training and competency and patient knowledge and education.

STANDARDS	%	CLINICAL EXCEPTIONS
For all patients to be treated in the same consistent manner and receive the same high standards	100%	None

References

- West Midlands Senior Renal Nurse Standards for Ongoing Care of a Renal Dialysis Catheter
- Department of Health (2005) Saving Lives: A delivery programme to reduce healthcare associated infection including MRSA
- EPIC 2: Updated National Evidence-based Guidelines for Preventing Healthcare Associated Infection. Journal of Hospital Infection. February 2007; 65S:S1 – S64
- The Health Act (2006): Code of Practice for the Prevention and Control of Healthcare Associated Infections. DoH
- National Patient Safety Agency (NPSA) 2004 Cleanyourhands Campaign
- Department of Health (2004) Towards cleaner hospitals and lower rates of infection: A summary of actions
- Department of Health (2007) Clean, safe care: Reducing MRSA and other healthcare associated infections – a national debate
- Department of Health (2003): Winning Ways: Working together to reduce healthcare associated infection in England
- Department of Health High Impact Intervention No 3: renal dialysis catheter care bundle
- Renal Registry Report (2008)

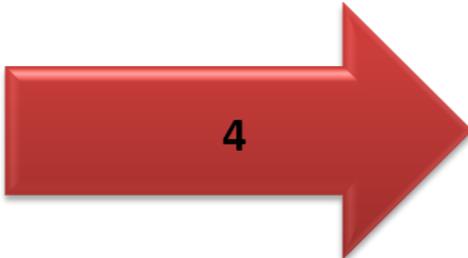
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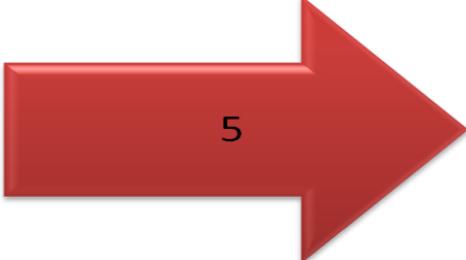
Appendix 1

Renal Dialysis Catheter Exit Site Scoring Tool

Catheter site appears healthy	 0	No signs of infection <input type="checkbox"/> Observe only
ONE of the following is evident: <ul style="list-style-type: none"> • Slight pain near site • Slight redness near site 	 1	Possible signs of infection <input type="checkbox"/> Observe only
TWO of the following is evident: <ul style="list-style-type: none"> • Pain near site • Erythema • Swelling 	 2	Early signs of infection <input type="checkbox"/> Ask advice. Consider swabbing
ALL of the following are evident: <ul style="list-style-type: none"> • Pain along the tunnel • Erythema • Induration (hardening of normally soft tissue) 	 3	Probable infection <input type="checkbox"/> Swab site. Consider treatment
ALL of the following are evident and <u>extensive</u> : <ul style="list-style-type: none"> • Pain along the tunnel • Erythema • Induration 	 4	High likelihood of infection <input type="checkbox"/> Check for previous swab results and Initiate treatment as indicated. OR <input type="checkbox"/> Swab site if previously not swabbed, consider initiating treatment immediately
ALL of the following are evident and <u>extensive</u> : <ul style="list-style-type: none"> • Pain along the tunnel • Erythema 		Advanced stage of infection <input type="checkbox"/> Check for previous swab results and Initiate treatment as indicated <u>OR</u>
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<ul style="list-style-type: none">• Induration• Pyrexia		<p>Swab site if previously not swabbed,</p> <p><input type="checkbox"/> Seek medical advice and initiating treatment immediately</p>
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CONTRIBUTION LIST

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Name	Committee / group