

The Newcastle upon Tyne Hospitals NHS Foundation Trust

Insertion and Management of Peripheral Intravenous Cannulae Policy

Effective: March 2011

Review: March 2014

1. Introduction

Peripheral Intravenous (I.V.) cannulation is an invasive procedure which predisposes the patient to an increased risk of local and systemic infection from micro-organisms introduced either at the time of insertion or when insitu. Peripheral I.V. cannulae related infections are associated with increased morbidity, prolonged hospitalisation and increased costs. Infections are most commonly caused by Staphylococci⁽²⁾. The predominant source of these micro-organisms is likely to be from the patient's endogenous flora colonising the skin or from the hands of the health care practitioner.

The Newcastle upon Tyne Hospitals NHS Foundation Trust is committed to reducing the risk of Healthcare Associated Infections (HCAIs) and to ensuring a safe environment where patients can be confident that best practice is being followed at all times.

2. Objectives

This policy aims to standardise the insertion technique and subsequent management of peripheral I.V. cannulae. The recommended clinical procedure is based on evidence recognised to reduce the incidence of cannula-related complications, with particular emphasis on associated infection risks. Meticulous peripheral I.V. cannula care during and following insertion is fundamental to reducing the risk of infection. The site should be inspected at 8 hourly intervals (3 times in 24 hours). The peripheral I.V. cannula should not remain insitu for longer than 72 hours, except in exceptional circumstances, maximum 96 hours. This must be documented in the patient's nursing records and on the Peripheral Cannulation Assessment Mount Sheet. The peripheral I.V. cannula must be removed immediately if it appears red (erythema), painful or swollen.

3. Target Patient Group

This policy should be applied in all situations within the Trust, where patients have or are being assessed for insertion of a peripheral I.V. cannula.

4. Target Professional Group

This policy should be used by any member of the Trust staff who inserts or cares for peripheral I.V. cannulae as part of their role. All staff are responsible for ensuring their practice complies with this Policy. Cannulation must only be undertaken by practitioners who have been appropriately trained and have been deemed competent, as detailed in the competency package at: [Cannulation Competency Assessment](#).

5. General Principles

- The patient's verbal or implied consent to examination and treatment must be obtained.
- Where obtaining verbal/implied consent is not possible, a risk assessment by the clinician must be undertaken regarding the need for examination and treatment.
- Cannulation must only be undertaken by those practitioners who have been appropriately trained, have been deemed competent and maintained competence.
- The need for peripheral I.V. access and site of cannula insertion must be assessed by the practitioner.
- The practitioner's hands must be decontaminated prior to cannula insertion by washing with an antiseptic solution for example, 4% Chlorhexidine. A surgical scrub handwash is not required as a standard handwash technique is adequate for this procedure. Hands should be decontaminated with liquid soap following cannula insertion. Please refer to the Trust [Hand Hygiene Policy](#).
- Non-sterile gloves must be worn at the time of peripheral I.V cannula insertion to protect the practitioner.
- The insertion of a peripheral I.V cannula must follow aseptic non-touch technique principles (ANTT) ⁽¹⁵⁾.
- The tourniquet must be decontaminated in advance of procedure with a universal sanitising wipe. Please refer to the Trust [Cleaning and Disinfection Procedure](#). Disposable tourniquets should be used for all patients with known/suspected infective diarrhoea.
- Clean visibly soiled skin with liquid soap and water or ask the patient to wash their arm and dry thoroughly.
- The patient's skin must be disinfected for 20-30 seconds prior to cannula insertion using Chlorhexidine Gluconate 2% in 70% isopropyl alcohol and allowed to air dry thoroughly. Povidone Iodine skin preparation may be used as an alternative if the patient has sensitivity to Chlorhexidine Gluconate ⁽²⁾.
- A sterile, semi-permeable, transparent dressing should be applied to the insertion site. If the dressing becomes loose, damp or soiled, it should be changed in accordance with ANTT. The cannula should not stay insitu longer than 72 hours, except in exceptional circumstances, maximum 96 hours. This must be documented in the patient's records.

6. Site Selection

The insertion site should be determined by the risk of infection and mechanical complications. It is generally preferable to use the non dominant arm with the peripheral I.V cannula sited away from elbow and wrist joints, thereby reducing the likelihood of dislodgement through movement and to maintain cannula patency. Hand veins have a lower risk of phlebitis than veins on the wrist or upper arm ⁽³⁾. Veins in the lower limbs should not be used routinely in adults due to the increased risk of embolism and thrombophlebitis. Any peripheral I.V cannula inserted into lower

limbs should be re-sited to an upper limb as soon as possible ⁽⁴⁾. If possible, select most distal site for initial cannulation. Avoid bruised, painful, broken or infected skin.

7. Equipment

The following will be required:

- Sterile gauze swabs
- Chlorhexidine Gluconate 2% in 70% isopropyl alcohol
- Sterile semi-permeable transparent dressing
- Peripheral Cannula Assessment Mount Sheet
- Sterile field
- Peripheral I.V cannula (preferably non-ported, smallest gauge possible)
- Non sterile gloves
- Aprons/eye protection are indicated if there is a risk of splashing with blood or body fluids
- Tourniquet
- 10ml syringe
- 10mls Sodium Chloride 0.9% for intra-venous use
- Sharps bin
- Topical local anaesthetic if required

8. Procedure

Refer to the procedure for cannulation. This can be located within the [Cannulation Competency Assessment](#) The following practices during peripheral I.V cannula insertion have been shown to reduce significantly the incidence of HCAs;

- Decontaminate hands immediately in advance of procedure with an antiseptic solution for example, 4% Chlorhexidine
- Non sterile gloves must be worn to protect the practitioner
- Disinfect skin for at least 20-30 seconds with Chlorhexidine Gluconate 2% in Isopropyl alcohol 70% and allow to air dry thoroughly
- Do not re-palpate the peripheral I.V cannula insertion site
- Insert the peripheral I.V cannula in accordance with ANTT
- Check patency by flushing with 0.9% Sodium Chloride for injection
- Apply a sterile, semi-permeable transparent dressing

9. Management of the peripheral I.V cannulae inserted by Ambulance personnel

Peripheral I.V cannulae inserted by ambulance personnel will have a 'yellow' ambulance label attached to the sterile dressing at the furthest point from the insertion site. This label indicates that the peripheral I.V cannula has been inserted aseptically. If this label is not insitu and the ambulance personnel have not clearly communicated that the peripheral I.V cannula was inserted aseptically it should be assumed that this cannulae has been inserted in an uncontrolled manner and therefore **must** be removed at the earliest and safest opportunity (this should ideally be within 24 hours). It is essential that a clinical assessment of the size, position and

requirement of the peripheral I.V cannulae should be reviewed on a regular basis, initially by the admitting team. ⁽¹⁾

10. Documentation

The Peripheral Cannula Assessment Mount Sheet **must** be completed. **See Appendix 1.**

It is essential that accurate records of peripheral I.V. access and management are maintained. If a patient has a peripheral I.V cannula insitu which cannot be identified as being inserted using an aseptic non-touch technique and there is no accompanying record, then the cannula must be removed, and re-sited (when appropriate and safe to do so) following the correct procedure.

Documentation is the responsibility of the individual carrying out the procedure.

11. Post-Insertion care and management

Meticulous peripheral I.V cannula care following insertion is fundamental to reducing the risk of infection.

An aseptic non touch technique must be used for all peripheral IV cannula contact/manipulations.

Hands should be decontaminated with an antiseptic solution for example 4% Chlorhexidine and clean non-sterile gloves must be worn before accessing the peripheral I.V cannula.

The peripheral I.V cannula port should not be used to administer IV medications unless in emergency situations or in strictly controlled environments such as in the anaesthetic and/or theatre departments.

Inspect the insertion site and record the status of the site on the Peripheral Cannula Assessment Mount Sheet, 8 hourly (3 times in 24 hours). Check that the site is dry and clean, shows no signs of redness (erythema) or irritation and that the dressing is intact. If the cannulation area shows signs of redness, irritation or infection, the peripheral I.V cannula must be removed.

Replace the dressing immediately if it has become loose, damp or soiled.

12. Removal of Peripheral I.V Cannulae

- Decontaminate hands before the procedure with an antiseptic solution for example, 4% Chlorhexidine and wear non-sterile gloves
- Do not use scissors to remove the dressing
- Cover the site with a sterile dressing
- Any signs of phlebitis should be documented in the patient's nursing records in conjunction with any treatment/actions taken. Cover with a sterile, transparent dressing

- Record removal date onto Peripheral Cannulation Assessment Mount Sheet

13. Monitoring

Compliance with this policy will be assured via the Trust Clinical Assurance Tool (CAT) and monitored via monthly reports to Directorates and the Nursing and Patient Services Director and the Heads of Nursing.

14. References & Bibliography

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5. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2009). [Cleaning and Disinfection Procedure](#). Policies and Procedures.
6. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2009). [Consent to Examination or Treatment](#) Policies and Procedures.
7. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2008). [Guidelines for the Management of Patients with Blood Borne Viral Infections](#). Policies and Procedures.
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9. The Newcastle upon Tyne Hospitals NHS Foundation Trust. (2010). [Healthcare Acquired Infections. Prevention and Control Strategy](#). Policies and Procedures.
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11. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2009). [Infection Control: Standard Precautions Policy](#). Policies and Procedures.
12. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2009). [Patient Identification Policy](#) Policies and Procedures.
13. The Newcastle upon Tyne Hospitals NHS Foundation Trust (2010). [Waste Management Policy and Procedures](#) Policies and Procedures.
14. Pratt RJ, Pellowe CM, Wilson JA, Loveday HP, Harper PJ, Jones SRW, McDougall C, Wilcox MH 2007. Epic2: National Evidence-Based

Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England, *Journal of Hospital Infections*, 65: S1 - S64.

15. Rowley, S, Clare, S and Macqueen, S et al (2010) ANTTv2: An updated practice framework for aseptic technique. *British Journal of Nursing* (Intravenous Supplement). Vol 19, 5, S5-S12.

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Appendix One – I.V Documentation Mount Sheet



PERIPHERAL CANNULA INSERTION AND ONGOING CARE RECORD

Affix patient identification label in box below or complete details

Surname	Patient I.d.No.
Forename	D.O.B. DDMMYYYY
Address	NHS No.
	Sex: Male / Female
Postcode	

Site: _____ Ward: _____

Peripheral cannula assessment insitu \leq 72 hrs. Cannula assessment to be recorded 3 times a day

Healthy – no sign of phlebitis, dressing clean and intact, cannula patent, asepsis guaranteed. (H)

Dressing – change if soiled, loose or damp. (D)

Remove – resite if procedure is not known to be done aseptically. Remove if pain, erythema, swelling at site and if defective, not patent, insitu $>$ 72, cannula no longer required (R)

Name of person inserting cannula:													B A T C H N O
Date Inserted			Insertion site				Ported/Non ported						
Time Inserted							Cannula Gauge						
Inspection	Day 1			Day 2			Day 3			*Day 4			
Date													
Time	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	
Initials of person inspecting site:													
Record H, D or R													
Date removed	If need to be insitu longer than 72hrs record reason *												
Time removed	Name of person removing cannula												

Name of person inserting cannula:													B A T C H N O
Date Inserted			Insertion site				Ported/Non ported						
Time Inserted							Cannula Gauge						
Inspection	Day 1			Day 2			Day 3			*Day 4			
Date													
Time	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	
Initials of person inspecting site:													
Record H, D or R													
Date removed	If need to be insitu longer than 72hrs record reason *												
Time removed	Name of person removing cannula												

Name of person inserting cannula:													B A T C H N O
Date Inserted			Insertion site				Ported/Non ported						
Time Inserted							Cannula Gauge						
Inspection	Day 1			Day 2			Day 3			*Day 4			
Date													
Time	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	AM	PM	NIGHT	
Initials of person inspecting site:													
Record H, D or R													
Date removed	If need to be insitu longer than 72hrs record reason *												
Time removed	Name of person removing cannula												

THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION TRUST
IMPACT ASSESSMENT – SCREENING FORM A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

Policy Title:	Insertion and Management of Peripheral Intravenous Cannulae Policy	Policy Author:	Lesley Wilson, Senior Infection Control Nurse
		Yes/No?	You must provide evidence to support your response:
1.	Does the policy/guidance affect one group less or more favourably than another on the basis of the following: (* denotes protected characteristics under the Equality Act 2010)	NO	
	• Race *	NO	
	• Ethnic origins (including gypsies and travellers)	NO	
	• Nationality	NO	
	• Gender *	NO	
	• Culture	NO	
	• Religion or belief *	NO	
	• Sexual orientation including lesbian, gay and bisexual people *	NO	
	• Age *	NO	
	• Disability – learning difficulties, physical disability, sensory impairment and mental health problems *	NO	
	• Gender reassignment *	NO	
	• Marriage and civil partnership *	NO	
2.	Is there any evidence that some groups are affected differently?	NO	
3.	If you have identified potential discrimination which can include associative discrimination i.e. direct discrimination against someone because they associate with another person who possesses a protected characteristic, are any exceptions valid, legal and/or justifiable?	NO	
4(a).	Is the impact of the policy/guidance likely to be negative? (If “yes”, please answer sections 4(b) to 4(d)).	NO	
4(b).	If so can the impact be avoided?		
4(c).	What alternatives are there to achieving the policy/guidance without the impact?		
4(d).	Can we reduce the impact by taking different action?		

Comments:	Action Plan due (or Not Applicable):
	N/A

Name and Designation of Person responsible for completion of this form: Lesley Wilson Senior Infection Control Nurse Date: 24/07/11

Names & Designations of those involved in the impact assessment screening process: Sue Gray Senior Infection Control Nurse

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified on this form, please refer to the Policy Author identified above, together with any suggestions for the actions required to avoid/reduce this impact.)

For advice on answering the above questions please contact Frances Blackburn, Head of Nursing, Freeman/Walkergate, or, Christine Holland, Senior HR Manager. On completion this form must be forwarded electronically to Steven Stoker, Clinical Effectiveness Manager, (Ext. 24963) steven.stoker@nuth.nhs.uk together with the procedural document. If you have identified a potential discriminatory impact of this procedural document, please ensure that you arrange for a full consultation, with relevant stakeholders, to complete a Full Impact Assessment (Form B) and to develop an Action Plan to avoid/reduce this impact; both Form B and the Action Plan should also be sent electronically to Steven Stoker within six weeks of the completion of this form.