James Paget University Hospitals NHS
NHS Foundation Trust

Peripheral intravenous cannulation procedure

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Version	Date	Author	Reason
V1.0	2006	Helen Mills: Practice development nurse	Initial development
V1.1	2008	Alex Broome: Practice development nurse	Review
V1.2	2010 November	Alex Broome: Practice development nurse	Review
V1.3	2012 October	Sarah Hills: Practice development nurse	Update of PGD & application of new template
V1.4	May 2014	Sarah Hills: Practice Development Nurse	Review
V1.5	June 2015	Sarah Hills: Practice Development Nurse	Review
V1.6	April 2018	Marian Hunt: Clinical Educator	Remove PGD and Review

CONTENTS

1.0 INTRODUCTION

1.1 Background
Peripheral intravenous cannulation can be considered a key intervention within the acute setting, with many patients requiring either Antibiotics or fluids to be delivered intravenously. (IV.) To prevent potentially serious complications, a standardised insertion policy is required.

1.2 Scope
Those undertaking the procedure will include Medical Doctors, and will also incorporate appropriately trained registered Nurses/Midwifes, Assistant Practitioners, AHP's, Clinical Support Assistants, and Community Dental Nurses, who have undergone specific skills and training and demonstrated competence.

1.3 Principle Legislation or Guidance Referenced
- ANTT guidelines (Appendix B)
- Epic 3 (2014) – Guidelines for preventing Hospital-acquired infections
- Department of Health (2007), saving lives peripheral cannulation care bundle: High impact intervention number two.
- Glasper *et al* (2007) Oxford handbook of children's and young people's nursing. Oxford University Press.
- Coyne et al (2010) clinical skill in children's nursing. Oxford University Press
- Royal College of Nursing Guide: Restrictive physical intervention and therapeutic holding for children and young people. 2010
- Royal College of Nursing: Standards for infusion therapy. 2016
- Royal Marsden (2015) 9th edition The Royal Marsden hospital manual of clinical nursing procedures

1.4 Reader Panel
The following formed the Reader Panel that reviewed this document:

Post Title
Clinical Educator- Jason Lee
Clinical Educator Neonatal Unit- Kelly Melton
Clinical Educator Pediatric Ward - Hannah Willis
Lead Pediatric Consultant Pediatric - John Chapman
Consultant Anesthetist - Dr Karlikowski

1.5 Trust Values
This Procedure conforms to the Trust's values of putting patients first, aiming to get it right, recognising that everybody counts and doing everything openly and honestly.

1.6 Glossary
The following terms and abbreviations have been used within this Guide:

Term	Definition
AHP	Allied health professional
ANTT	Aseptic Non Touch Technique
HCPC	Health and Care Professions Council
IV	Intravenous
NaCl	Sodium Chloride
NICE	National Institute For Health And Care Excellence

NPSA	National Patient Safety Agency
VIP	Visual infusion phlebitis

1.7 Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

2.0 OBJECTIVE FOR PROCEDURE

Through implementing this Procedure, the Trust will:

- Ensure a standardised approach to Cannulation
- Facilitate faster and more efficient treatment of patients
- Enable the development of the clinical workforce.

3.0 ROLES AND RESPONSIBILITIES

The Policy will apply to all clinical healthcare staff undertaking peripheral intravenous cannulation employed by the James Paget University Hospitals NHS Foundation Trust.

For all Practitioners, deficits in knowledge or competence should be identified and support sought.

Although included within the remit of this policy, paediatric cannulation will require a period of supervision, specific to the area before competency within the specialty is established.

4.0 PROCEDURE FOR ADULT CANNULATION

4.1 Preparation:

- Identify the patient using a minimum of three identification details, confirmed with the patient identification wrist band, clinical documentation and if possible the patient themselves verbally.
- Explain and discuss the procedure with the patient, gaining a valid and informed consent.
- Assess and select a vein, by applying a disposable tourniquet approximately 5-10cm above needle insertion site, also asking the patient to clench and unclench their fist if able.
- If required apply topical anaesthetic 60 minutes before procedure. For adults, use of the Lidocaine 2.5%, Prilocaine 2.5% cream must be prescribed before administration.
- Select the appropriate device based on vein size and treatment.
- Cover any cuts with a waterproof dressing.
- Wash hands using 8 stage technique.
- Clean plastic tray using soap and water and dry with paper towels.
- Check all packaging and expiry dates.
- Put on gloves and apron
- Using ANTT principles(Appendix A), prime needle free access device with 0.9% Sodium chloride (NaCl).

4.2 Procedure:

- Prepare the area and support the chosen limb. Avoid certain limb sites e.g. sensation deficit, injury, swelling, scarring, arterio venous fistula or mastectomy site as lymphatic drainage will be impaired. Preferred sites are upper limbs and most distal points depending on the need for cannulation and condition of the veins. **The Ante-Cubital Fossa (ACF) should only be used in an emergency or if 2 separate individuals have attempted to cannulate other areas and been unable to do so**. The names of the two individuals must be clearly documented.
- Palpate Vein again if necessary.
- Decontaminate hands and put on clean gloves.
- Re-apply disposable single patient use tourniquet above selected site.

- Clean the patients skin with an approved swab containing 2% Chlorhexidine Gluconate in 70% Isopropyl Alcohol and allow to dry naturally for at least 30 seconds- **DO NOT REPALPATE VEIN AFTER CLEANING**.
- Remove the needle guard and inspect the device for any faults.
- Undertake the procedure using ANTT (Appendix A).
- Ensuring the bevel is facing upwards; insert the cannula through the skin at an angle suitable to both the depth of the vein and the brand of product used.
- Wait for the first flashback of blood in the flashback chamber.
- Level the device by decreasing the angle between the cannula and the skin. The inner needle "stylet" should be held still and the cannula advanced.
- A second flashback of blood should be seen along the shaft of the cannula.
- Maintain skin traction. Slowly advance the cannula off the stylet and into the vein.
- **RELEASE THE TOURNIQUET**
- Apply pressure to the vein above the cannula tip and remove stylet, disposing immediately into a sharps container
- If blood sampling is required, a syringe or luer device can be attached to the cannula and blood withdrawn. (NB the tourniquet may need to be reapplied for adequate flow of blood.)
- Attach a needle-free access device with extension, previously primed with Sodium Chloride 0.9%.
- Flush with 5 ml Sodium Chloride 0.9% pre filled syringe. (A prescription for the flush is needed if the 5 ml Sodium Chloride 0.9% needs to be drawn up).
- Observe for signs of swelling or leakage and ask the patient to report any discomfort or pain.
- Apply a sterile semi-permeable transparent dressing and apply dated sticker.

4.3 After care:

- Discard waste appropriately- ensure sharps go in to a sharps bin.
- Remove apron and gloves; wash your hands following the 8 step hand washing technique.
- Clean plastic tray using soap and water and dry thoroughly. Return to location.
- Complete the relevant documentation on the VIP score chart. E.g. position, number of attempts, batch number.
- Give patient appropriate care leaflet, available for printing from intranet.

(Adapted from the Royal Marsden Manual of Clinical Nursing Procedures, 9th Edition 2015)

5.0 PROCEDURE FOR PAEDIATRIC AND NEONATAL CANNULATION

5.1 Preparation:

- Identify patient using a minimum of three identification details, confirmed with the patient identification wrist band, drug chart, parent/ carer and if possible the patient.
- Explain and discuss the procedure with the parent and patient, gaining their informed consent. Implied consent is applicable only on the neo-natal unit.
- Engage the assistance of play specialists and distraction techniques where possible. For neonates use comfort holding technique.

- Assess and select a vein, by applying a disposable tourniquet approximately 5-10cm above needle insertion site (if appropriate), also asking the patient to clench and unclench their fist if able.
- If required apply topical anaesthetic 60 minutes before procedure. For paediatric patients this can be administered using the Trusts Lidocaine 2.5%, Prilocaine 2.5% cream for Paediatric use PGD policy located on the intranet. For Neonates give oral sucrose 24% as prescribed prior to cannulation.
- Select the appropriate device based on vein size and treatment.
- Wash hands using 8 stage techniques.
- Clean plastic tray using soap and water and dry thoroughly with paper towels.
- Check all packaging and expiry dates. Put on gloves and apron.
- Using ANTT principles (Appendix A), prime needle free access device with 0.9% sodium chloride (NaCl).

5.2 Procedure:

- Cover any cuts with a waterproof dressing.
- Put on clean apron.
- Go to the patient; re-check consent and identity with the parents and where appropriate, the patient.
- Palpate Vein again if necessary.
- Position patient and secure limb appropriately to prevent harm.
- Decontaminate hands and apply a clean pair of gloves.
- Re-apply disposable tourniquet above selected site. (Unless Neo-Nate)
- Clean the patients skin with a Swab containing 2% Chlorhexidine Gluconate in 70% Isopropyl Alcohol and allow to dry naturally for at least 30 seconds- **DO NOT REPALPATE VEIN AFTER CLEANING**.
- Remove the needle guard and inspect the device for any faults.
- Undertake the procedure using ANTT (Appendix A).
- Ensuring the bevel is facing upwards; insert the cannula through the skin at an angle suitable to both the depth of the vein and the brand of product used.
- Wait for the first flashback of blood in the flashback chamber.
- Level the device by decreasing the angle between the cannula and the skin. The inner needle "stylet" should be held still and the cannula advanced.
- A second flashback of blood should be seen along the shaft of the cannula.
- Maintain skin traction. Slowly advance the cannula off the stylet and into the vein.
- **RELEASE THE TOURNIQUET**
- Apply pressure to the vein above the cannula tip and remove stylet, disposing immediately into a sharps container
- If blood sampling is required, a syringe or luer device can be attached to the cannula and blood withdrawn. (NB the tourniquet may need to be reapplied for adequate flow of blood). For neonates blood should be obtained by allowing blood to drip into blood bottles straight from cannula.
- Attach a needle-free access device with extension, previously primed with Sodium Chloride 0.9%.
- Flush with 5 ml Sodium Chloride 0.9% pre filled syringe. (A prescription for the flush is needed if the 5 ml Sodium Chloride 0.9% needs to be drawn up). For neonates flush with 2-3mls of 0.9% Sodium Chloride.
- Observe for signs of swelling or leakage and ask the patient to report any discomfort or pain.

- Apply a sterile semi-permeable transparent dressing and apply date sticker. For neonates complete cannulation sticker and/or cannulation form and place in notes.
- Cover with bandage to prevent dislodgement (Splint if required). For neonates apply splint and secure with mefix tape ensuring cannulation site is visible.

5.3 After care:

- Discard waste appropriately- ensure sharps go in to a sharps bin.
- Remove gloves and apron; wash your hands following the six step hand washing technique.
- Reassure patient and provide a sticker reward etc if required.
- Clean plastic tray using soap and water and dry thoroughly. Return to location.
- Complete the relevant documentation on the VIP score chart. E.g. position, number of attempts, batch number.
- Give family appropriate care leaflet.

(Adapted from the Royal Marsden Manual of Clinical Nursing Procedures, 9th Edition 2015)

6.0 STAFF TRAINING

The Education and Practice Development Department will facilitate the extended roles training for non-medical health care staff, including the record keeping of attendance and returned statements of competence.

Training and competency assessment for Medical Staff is now addressed through the Foundation Programme. However, for those Medical staff for which this is not applicable they remain personally accountable to ensure that they have had adequate training and are competent to practice.

6.1 Criteria for staff carrying out the Procedure

Staff will require the backing of their ward manager and demonstrate there is a clinical need for the skill within their area and complete an approval form before attending the course.

6.2 Learning Outcomes

Staff will be required to identify veins and have knowledge of the supporting structures within the arm, and to have an awareness of the complications of Cannulation. Whilst possessing the essential dexterity to perform this practical skill.

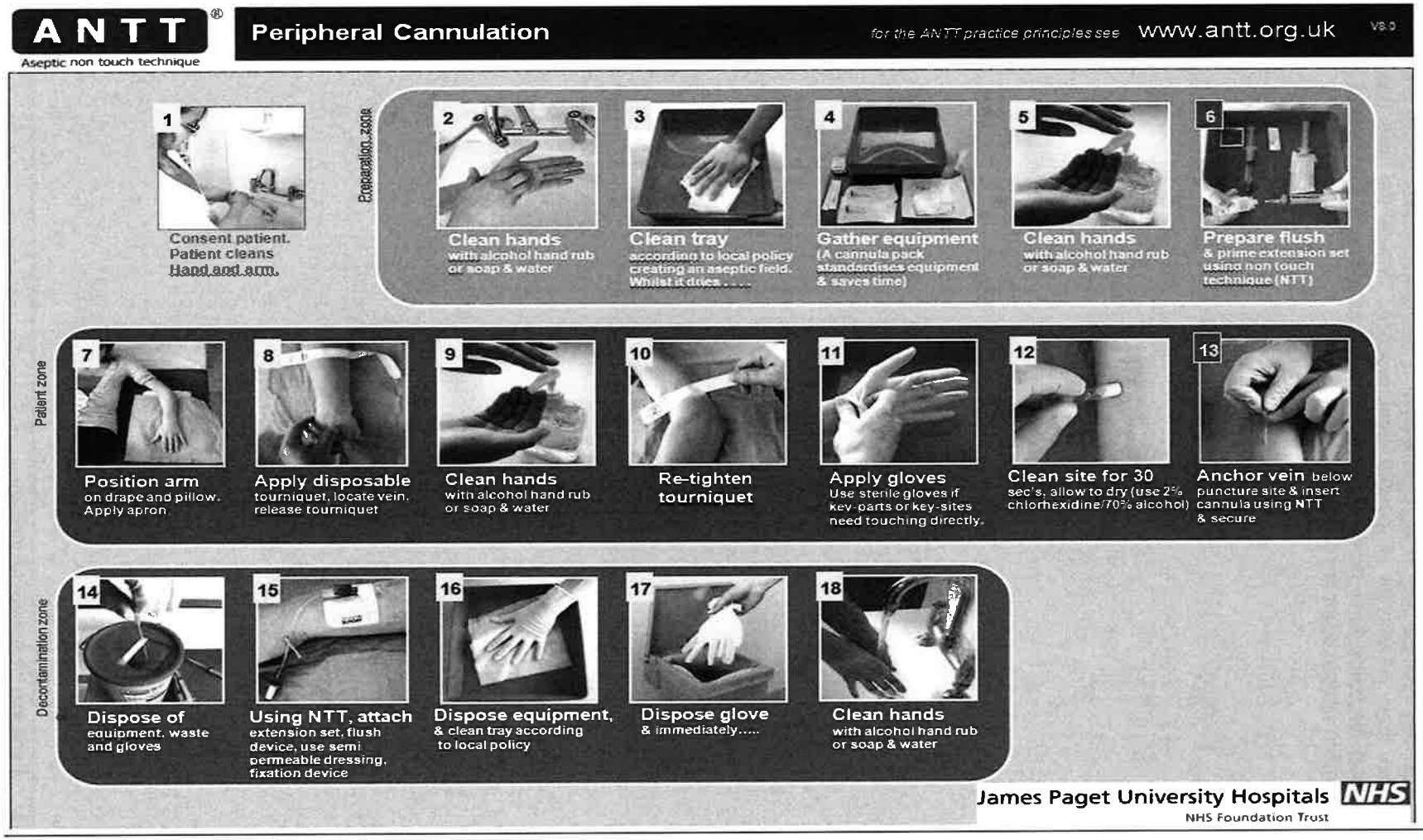
6.3 Method of Assessment, Knowledge and Skills

For Nursing and Allied Healthcare Professionals, training will be provided as part of the extended skills programme. This will require staff to attend half a day's classroom based study and associated practical session. They are then able to practice the skill under direct supervision of another competent practitioner documenting each attempt as evidence of personal development.

Once the practitioner feels sufficiently confident in their abilities, they can be assessed using the criteria in the cannulation evidence portfolio, by any other registered practitioner who is competent at cannulation. On completion a copy of the assessment needs to be returned to the education department and this will then be added to skills on OLM training records.

Practice may change over time. Ultimately it is the responsibility of the practitioner to maintain their knowledge of current best practice. Where the skill has not been practiced for some time or the practitioner lacks confidence and would like further supervision update days are available.

APPENDIX A- Aseptic Non Touch Technique



APPENDIX B- Equality Impact Assessment

Policy or function being assessed: Intravenous cannulation policy including PGD **Department/Service: Education and Training**
Assessment completed by: Marian Hunt **Date of assessment: April 2018**

1.	Describe the aim, objective and purpose of this policy or function.	To create a standardised approach to cannulation and increase efficiency in patient care.		
2i.	Who is intended to benefit from the policy or function?	**Staff ✕** **Patients ✕** **Public ☐** **Organisation ✕**		
2ii	How are they likely to benefit?	Patients receive prompt and effective treatment. Staff skills developed.		
2iii	What outcomes are wanted from this policy or function?	Fast and efficient treatment. A standardised approach to cannulation.		
For Questions 3-11 below, please specify whether the policy/function does or could have an impact in relation to each of the nine equality strand headings:				
3.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **race/ethnicity?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
4.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **gender?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
5.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **disability?** Consider Physical, Mental and Social disabilities (e.g. Learning Disability or Autism).	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
6.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **sexual orientation?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
7.	Are there concerns that the policy/function does	Y	**N**	If yes, what evidence do you have of this? E.g.

	or could have a detrimental impact on people due to their **pregnancy or maternity?**			Complaints/Feedback/Research/Data
8.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **religion/belief?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
9.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **transgender?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
10.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **age?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
11.	Are there concerns that the policy/function does or could have a detrimental impact on people due to their **marriage or civil partnership?**	Y	**N**	If yes, what evidence do you have of this? E.g. Complaints/Feedback/Research/Data
12.	Could the impact identified in Q.3-11 above, amount to there being the potential for a disadvantage and/or detrimental impact in this policy/function?	Y	**N**	*Where the detrimental impact is unlawful, the policy/function or the element of it that is unlawful must be changed or abandoned. If a detrimental impact is unavoidable, then it must be justified, as outlined in the question above.*
13.	Can this detrimental impact on one or more of the above groups be justified on the grounds of promoting equality of opportunity for another group? Or for any other reason? E.g. providing specific training to a particular group.	Y	**N**	*Where the detrimental impact is unlawful, the policy/function or the element of it that is unlawful must be changed or abandoned. If a detrimental impact is unavoidable, then it must be justified, as outlined in the question above.*
14.	**Specific Issues Identified**			
	Please list the specific issues that have been identified as being discriminatory/promoting detrimental treatment			Page/paragraph/section of policy/function that the issue relates to
15.	**Proposals**			
	How could the identified detrimental impact be	**N/A**		

	minimised or eradicated?		
	If such changes were made, would this have repercussions/negative effects on other groups as detailed in Q. 3-11?	Y	**N**
16.	Given this Equality Impact Assessment, does the policy/function need to be reconsidered/redrafted?	Y	**N**
17.	**Policy/Function Implementation**		
	Upon consideration of the information gathered within the equality impact assessment, the Director/Head of Service agrees that the policy/function should be adopted by the Trust. Please print: **Name of Director/Head of Service: Sharon Crowle** **Title: Head of Education and Practice Development** **Date: April 2018** **Name of Policy/function Author: Marian Hunt** **Title: Clinical Educator** **Date: April 2018** (A paper copy of the EIA which has been signed is available on request).		
18.	**Proposed Date for Policy/Function Review** **April 2018**		
	Please detail the date for policy/function review (3 yearly): April 2021		
19.	**Explain how you plan to publish the result of the assessment?** *(Completed E.I.A's must be published on the Equality pages of the Trust's website).*		
	Standard Trust process		
20.	**The Trust Values**		

	In addition to the Equality and Diversity considerations detailed above, I can confirm that the four core Trust Values are embedded in all policies and procedures. They are that all staff intend to do their best by: Putting patients first, and they will: Provide the best possible care in a safe clean and friendly environment, Treat everybody with courtesy and respect, Act appropriately with everyone. Aiming to get it right, and they will: Commit to their own personal development, Understand theirs and others roles and responsibilities, Contribute to the development of services Recognising that everyone counts, and they will: Value the contribution and skills of others, Treat everyone fairly, Support the development of colleagues. Doing everything openly and honestly, and they will: Be clear about what they are trying to achieve, Share information appropriately and effectively, Admit to and learn from mistakes. I confirm that this policy/function does not conflict with these values. ☑