



## CLINICAL GUIDELINE

# Aseptic Non Touch Technique (ANTT) Guideline

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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### Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

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## Introduction

This guideline aims to outline the principles and practices of Aseptic Non Touch Technique (ANTT®) when carrying out any clinical procedure that involves a risk of infection to the patient. NHSGGC are committed to the delivery of high-quality care, this includes reducing the incidence of healthcare associated infections (HAI).

This document is organised with core information followed by exemplar templates. Quality improvement, audit and research within clinical areas signifies that the evidence base is constantly evolving. Practitioners should endeavour to use the most up-to-date evidence on which to base their practice.

Invasive clinical procedures are regularly performed in community and hospital settings. The definition of aseptic technique is often misunderstood and appears to have contributed to practice variability, inadequate risk assessment and uncontrolled standards of practice. Implementing ANTT®:

- Provides a robust set of principles to teach safe and effective aseptic technique that practitioners can apply to all clinical procedures. This is identifiable in practice as the 'The ANTT®-Approach'
- Reduces variability in practice

This approach is supported by EPIC 3 (2014), Royal College of Nursing (RCN) Standards for Infusion Therapy (2016) and The National Institute for Clinical Excellence (NICE) (2012).

To access ANTT® website for further information click [here](#)

## Scope

The ANTT® guideline applies to practitioners in NHSGGC adult (acute, mental health and community), paediatric and neonatal services when performing an aseptic procedure. The term practitioner refers to all health care workers and students working involved in carrying out aseptic procedures.

Examples of aseptic procedures include, but are not limited to:

- Insertion and maintenance of vascular access devices
- Administration of Intravenous (IV) medication/ maintenance fluids and flush
- Care of wounds, surgical incisions, removal of drains and or sutures
- Insertion of a urinary catheter

This guideline should be used in conjunction with other relevant legislation, guidelines and standards. **Standard Infection Control Precautions (SICPs)** should be embedded into all care delivery.

## Roles and Responsibilities

All practitioners should be appropriately trained and supervised in all clinical procedures until considered competent. A practitioner can be described as competent if they have had the necessary training, clinical experience, skills and knowledge to undertake a task safely and without supervision. If a practitioner deems it appropriate to adapt the guidelines, a risk assessment must be undertaken and documented appropriately.

## ANTT® definitions

**Aseptic technique:** the method by which precautions are taken during invasive clinical procedures to prevent the transfer of microorganisms from the health care practitioner, procedure equipment or the immediate environment to the patient. Regardless of the setting, the aim is always to prevent the transfer of pathogenic microorganisms into or onto the patient.

**Non-touch technique (NTT):** An integral component in achieving asepsis whereby Key-Parts and Key-Sites avoid contamination; if Key-Parts and Key-sites are required to be touched, sterile gloves should be used to carry out the procedure.

**Aseptic non-touch technique (ANTT®):** a specific type of aseptic technique with a unique theoretical and practice framework that combines the aseptic technique, and non-touch techniques.

**Aseptic / asepsis:** free from pathogenic organisms.

**Key-Parts:** The critical parts of procedural equipment that comes in to contact with the patient (a Key-Site) or other procedural equipment. Examples are syringe tips, needles (both the tip and hub), needle free access device or tops of medicine vials.

Examples:

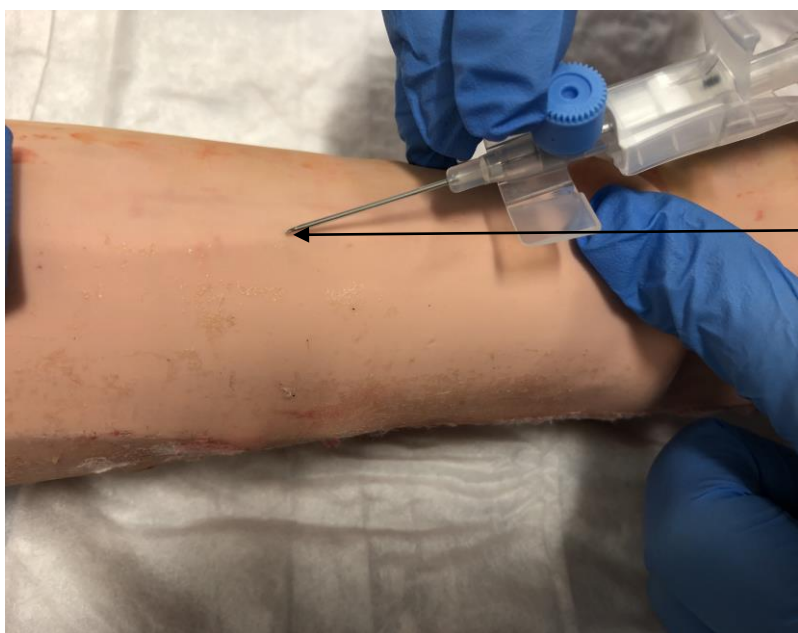


Key parts:

- Tip of needle
- Neck of ampoule
- Hub of needle
- Tip of syringe

**Key-Site:** The point where the patient's skin is breached. Examples may include wounds, the insertion site of peripheral venous catheter (PVC) or central venous catheter (CVC).

Example:



Key site:

- PVC insertion site

**Aseptic field:** a designated aseptic working space. This space contains and protects the procedure equipment. When utilising an aseptic non-touch technique there may be differing aseptic fields.

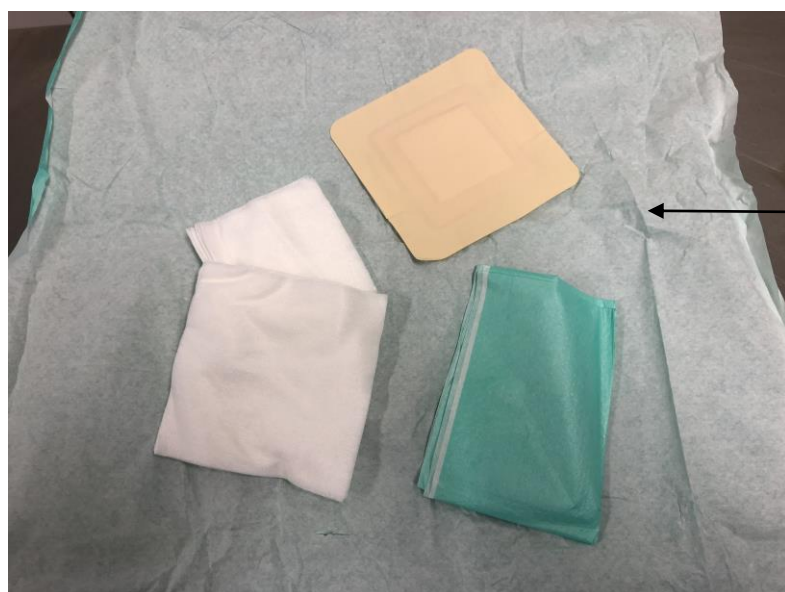
**General Aseptic Field:** a term used to promote asepsis rather than ensure it. This may be with decontaminated and disinfected procedure tray or trolley. The maintenance of equipment asepsis is by protecting key parts individually with micro critical aseptic fields (caps and covers).

Examples:



**Critical Aseptic Field:** an example of this is a dressing pack or sterile drape. It is used when Key-Parts and / or Key-Sites cannot be easily protected from contamination during a procedure. These critical aseptic fields require only sterile equipment to be placed within it; sterile gloves are required to maintain asepsis.

Example:

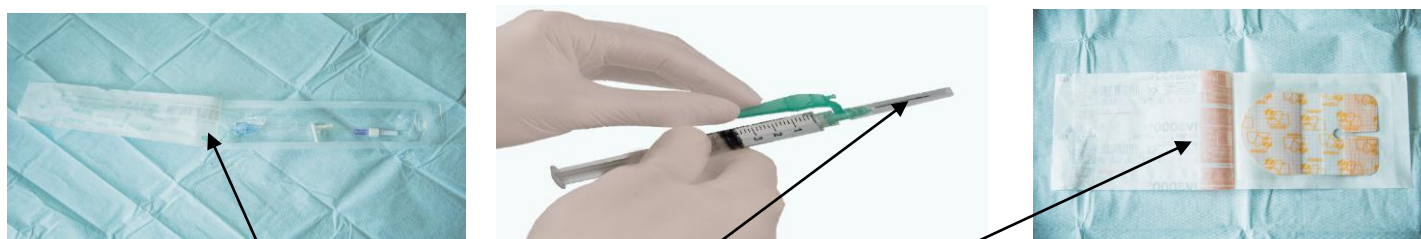


Critical Aseptic field (dressing pack) containing:

- Sterile dressing
- Sterile swabs
- Sterile drape

**Micro Critical Aseptic Field:** a small critical aseptic field used to protect a specific key part.

Example:



Micro critical aseptic field, protecting the contents from contamination

- Needle free device wrapper
- Needle cover
- PVC dressing wrapper

**Critical aseptic management:** the complete main aseptic field (usually a sterile drape) requires critical aseptic maintenance, i.e. only sterile or aseptic equipment can come in to contact with the critical aseptic field. Sterile gloves maintain aseptic continuity.

### **The ANTT® Clinical Practice Framework**

The ANTT® Clinical Practice Framework provides a logical and standard set of principles and safeguards that practitioners need to understand and comply with, in order to apply safe aseptic technique to a wide range of clinical procedures. In addition, it provides healthcare organisations with a robust practice framework to ensure standardisation and effective clinical governance of this critical clinical competency.

For further information on the ANTT® principles click [here](#)

The aim of ANTT® is asepsis, which is achieved through ‘**Key-Part**’ and ‘**Key-Site**’ protection. ANTT® states that the key principle to preventing infection is to maintain the asepsis of **Key-Parts** and **Key-Sites**. A **Key-Part** (e.g. tip of syringe) being any part of a device that will come into direct contact with **Key-Sites, or other aseptic Key-Parts** (e.g. insertion point / needle free access device). These Key-Parts can be protected by the use of **Micro Critical Aseptic Fields** such as the inside of a syringe wrapper, or a sterile cap. This minimizes the risk of contamination of **Key-Parts** and **Key-Sites** which can potentially lead to infection.

For further information of the 6 ANTT® actions for safe aseptic technique click [here](#)

## Determining Standard or Surgical ANTT®

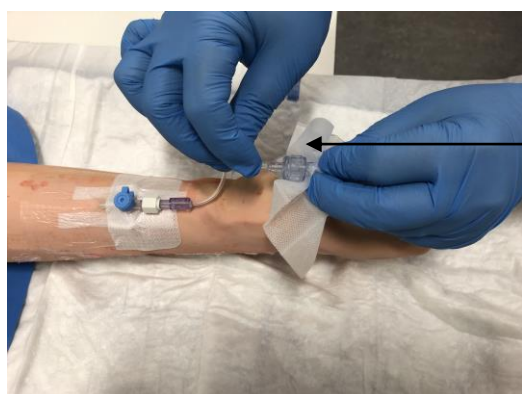
There are two types of ANTT® approach: Standard-ANTT® and Surgical-ANTT®. To determine the correct approach practitioners must undertake a risk assessment based on the technical difficulty of achieving asepsis and length of procedure time.

Standard ANTT® can be used for shorter, less complicated procedures when the following criteria are met:	Surgical-ANTT® is used for complicated procedures where one or more of the following criteria are met:
The procedure involves minimal 'Key-Parts' and 'Key-Sites'	Large or numerous 'Key-Parts' are involved, where it is difficult to perform procedure without touching 'Key-Parts' directly
The procedure is not significantly invasive e.g. insertion of peripheral venous catheter (PVC)	It is a significantly invasive procedure e.g. insertion of central venous catheter (CVC)
The procedure is technically straightforward, with negligible / no risk of contamination of 'Key-Parts' and 'Key-Sites'	The procedures is technically complex
The procedure is of short duration e.g. less than 20 minutes can be used as a guide	The procedure involves an extended time to complete - greater than 20 minutes can be used as a guide. The longer 'Key-Parts' and 'Key-Sites' are exposed to the physical and air environment, the greater potential for environmental (or inadvertent touch) contamination
Standard-ANTT® uses General Aseptic Fields (e.g. plastic procedure tray) and asepsis is managed by using Micro Critical Aseptic Fields (e.g. sterile caps or syringe packets)	Surgical-ANTT® uses Critical Aseptic Fields (e.g. dressing pack or sterile drape) and only introduces sterilised aseptic equipment into the aseptic field
<b>Both ANTT® approaches include standard infection control precautions.</b>	
<b>Both ANTT® approaches, aseptic 'Key-Parts' must only come into contact with other aseptic 'Key-Parts' or 'Key-Sites'.</b>	

For further information on choosing standard or surgical approach, visit [ANTT website](#).

**Note:** If a Key-Part or Key-Site is not aseptic it is considered an 'Inactive Key-Part / Key-Site', in order to use it the site or component must be disinfected to create an 'Active Key-Part / Key-Site' (e.g. IV port disinfection prior to access).

Example:



Inactive 'key part' (needle free access device) being disinfected with 2% chlorhexidine in 70% isopropyl alcohol for 30s, to create an active key part.

## Use of gloves

Hand hygiene is the single most effective way to prevent the spread of infection and is a fundamental aspect of ANTT®. Both sterile and non-sterile gloves are part of Protective Personal Equipment (PPE) for healthcare practitioners from exposure to blood and body fluids. The choice of sterile versus non-sterile gloves should be based on a risk assessment by the practitioner. The best possible way of not contaminating a 'Key-Part' is simply not to touch it. If the procedure requires direct contact with 'Key-Parts' or 'Key-Sites' sterile gloves must be worn. All gloves should be well fitting.



**Non-sterile gloves** are typically worn to protect practitioners from blood or medicine exposure. As these gloves are not sterile, they will not protect from contamination if 'Key-Parts' and 'Key-Sites' are touched. Non-sterile gloves are satisfactory for administering IV medications, accessing vascular access devices, simple wound care, venepuncture or peripheral venous cannulation where it is possible to undertake the procedure without contaminating 'Key-Parts' or 'Key-Sites'. Micro Critical Aseptic Fields (e.g. sterile caps or syringe packets) are used to protect 'Key-Parts' and 'Key-Sites'.

**Sterile gloves** are a necessity for urinary catheterisation or central venous catheter insertion and complex wound care for procedures that direct contact with 'Key-Parts' or 'Key-Sites' may occur.

**\* Please refer to *Nutrition Resource Manual for managing patients on parental nutrition.***

Note: Glove use is not a substitute for hand hygiene, and gloves must be used appropriately and in accordance with manufacturers' instructions, together with local policies and mandatory legislative requirements (e.g. COSHH Standards).



## Good practice points for maintaining ANTT®

- Remember to use a plastic procedure tray or procedure trolley. Always decontaminate and disinfect correctly, as per local procedures with a general-purpose detergent wipe before and after use and dry thoroughly.
- All equipment/packs should be **peeled open** to avoid contamination of Key-Parts and maintain asepsis.
- Do not drop your equipment into your plastic procedure tray. There is a risk Key-Parts may become contaminated by contact with the tray. Use a Micro Critical Aseptic Field (such as the inside of syringe packets) to protect Key-Parts (such as the syringe tip).
- Ensure other equipment in the plastic procedure tray does not come into contact with the Key-Parts (e.g. blood bottles rolling around tray, extension tubing being placed on top of equipment / Key-Parts).
- Take care when inserting the needle into vials/ampoules not to touch the outer sides.
- Take care not to contaminate syringe tips when placing and removing sterile syringe caps.
- The dorsal bung (top port) of a PVC should only be used on insertion or in emergencies.

## Review of the ANTT® Guideline

This document has been developed by a Short Life Working Group (SLWG) consisting of staff representing services across NHSGGC. Following agreement with Chief Nurses/Chief of Medicine, it was then reviewed and ratified by the following groups:

- NHSGGC Acute Services Clinical Governance Forum
- NHSGGC Mental Health Clinical Governance Forum
- NHSGGC Partnerships Clinical Governance Forum
- NHSGGC Board Clinical Governance Forum

This document will be due for a third review in December 2023 (2 years).

## Resources

- Allegranzi, B and Pittet, D. (2009), Role of hand hygiene in healthcare-associated infection prevention. *Journal of Hospital Infection* Vol 73, (4), pp.305-315.
- Aseptic Non Touch Technique (2016) *The international standard for aseptic technique* [online]. Available at: [http://www.ANTT®.org/ANTT®\\_Site/home.html](http://www.ANTT®.org/ANTT®_Site/home.html) [accessed 10<sup>th</sup> August 2021].
- Aziz, A.M. (2009) Variations in aseptic technique and implications for infection control. *British Journal of Nursing* Vol. 18, pp. 26-31.
- Clare, S. and Rowley, S. (2017) Implementing the Aseptic Non Touch Technique clinical practice framework for aseptic technique: a pragmatic evaluation using a mixed methods approach in two London hospitals. *Journal of Infection Prevention* Vol. 19(10), pp. 3-4.
- Loveday H.P., Wilson J.A., Pratt R.J., Golsorkhi, A., Bak J.B., Prieto J. and Wilcox M. (2014) Epic 3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *Journal of Hospital Infection*. Supplement S1-S70.
- NHS Services Scotland (2012) *National Infection Prevention and Control Manual* [online]. Available at: <http://www.nipcm.hps.scot.nhs.uk/about-the-manual/> [accessed 10<sup>th</sup> August 2021].
- NHS Education for Scotland (2017) HAI Scottish Infection Prevention and Control Education Pathway [online]. Available at: <https://www.nes.scot.nhs.uk/our-work/infection-prevention-and-control-hai/#:~:text=The%20SIPCEP%20is%20a%20staged%20pathway%20of%20infection,in%20any%20health%20and%20social%20care%20related%20course> [accessed 10<sup>th</sup> August 2021].
- NHS Greater Glasgow & Clyde (2017) *NHS Greater Glasgow & Clyde Core prevention policies and SOPs (including SICPs)* [online]. Available at: <http://www.nhsggc.org.uk/your-health/infection-prevention-and-control/prevention-and-control-of-infection-manual-policies-sops-guidelines/core-prevention-policies-sops-includes-sicps/> [accessed 10<sup>th</sup> August 2021].
- NHS Greater Glasgow and Clyde (2017) *NHS Greater Glasgow and Clyde Acute Division Vascular Access Procedure and Practice Guidelines* [online]. Available at: [Vascular Access Procedure and Practice Guideline.pdf \(scot.nhs.uk\)](#) [accessed 10<sup>th</sup> August 2021].
- NHS Greater Glasgow and Clyde (2017) *NHS Greater Glasgow and Clyde Acute Division Intravenous flush policy* [online]. Available at: [iv flush policy - 1512.pdf \(ggcmedicines.org.uk\)](#) [accessed 10<sup>th</sup> August 2021].
- NHS Greater Glasgow and Clyde (2018) *NHS Greater Glasgow and Clyde Safer use of clinical sharps* [online]. Available at: <http://www.staffnet.ggc.scot.nhs.uk/Info%20Centre/Health%20and%20Safety/Corporate%20Health%20and%20Safety/Partnerships/Pages/SharpsInformation.aspx> [accessed 10<sup>th</sup> August 2021].
- NHS Greater Glasgow and Clyde (2019) *NHS Greater Glasgow and Clyde Acute Division Intravenous medicine administration policy* [online]. Available at: [GGC Medicines: Medicines Policies](#) [accessed 10<sup>th</sup> August 2021].
- NICE (2012) *Infection: prevention and control of healthcare-associated infections in primary and community care*. NICE: London
- NICE (2011) *Healthcare-associated infections: prevention and control*. [online]. Available at: <https://www.nice.org.uk/Guidance/PH36> [Accessed 10<sup>th</sup> August 2021].
- RCN (2016) *Royal College of Nursing Standards for Infusion Therapy (4<sup>th</sup> Edition)* [online]. Available at: <https://www.rcn.org.uk/clinical-topics/infection-prevention-and-control/standards-for-infusion-therapy> [Accessed 10<sup>th</sup> August 2021].

The following templates are for guidance on implementing an ANTT® approach. The equipment shown is for demonstration of the ANTT®-approach. Practitioners will still be required and have responsibility to make appropriate decisions on using particular equipment (such as drapes/dressings or passive disinfection caps).

NOTE: Patients may have allergies or intolerance to particular products. Practitioners are responsible to ensure that suitable alternative products are used. Local policies and guidelines should be adhered to.

Preparation zone



**1**  
Gain consent, explain procedure and position patient. Patient cleans hand and arm



**2**  
Clean hands with soap & water or alcohol hand rub



**3**  
Clean tray, creating a general aseptic field. If using gloves – remove and decontaminate hands before next step



**4**  
Gather all equipment



**5**  
Clean hands with alcohol hand rub or soap & water



**6**  
Prepare Equipment protecting Key-Parts with non-touch technique (NTT) and Micro Critical Aseptic Fields (Caps & Covers)

Patient Zone



**7**  
Clean hands with alcohol hand rub or soap and water and apply apron



**8**  
Position arm, apply disposable tourniquet and palpate vein, loosen tourniquet after suitable vein located



**9**  
Clean hands with alcohol hand rub or soap & water



**10**  
Apply non-sterile gloves, reapply tourniquet



**11**  
Clean skin with a 2% chlorhexidine and 70% isopropyl alcohol wipe/applicator and cross hatch method for 30 secs



**12**  
Allow skin to dry. Anchor vein below puncture site and insert PVC using NTT (if re-palpation is necessary re-clean the skin)



**13**  
Using NTT attach needle free access device, flush PVC and secure with sterile semi-permeable dressing



**14**  
Dispose of sharps and equipment



**15**  
Dispose of PPE



**16**  
Clean hands with soap & water or alcohol hand rub

Decontamination Zone



**17**  
Clean tray according to local policy



**18**  
Clean hands with alcohol hand rub or soap & water



**19**  
Complete PVC Careplan

Preparation zone	1		Gain consent and explain procedure. Clean hands with soap & water or alcohol hand rub
	2		Clean tray, creating a General Aseptic Field. If using gloves – remove and decontaminate hands before next step
	3		Gather all equipment place around the tray
	4		Clean hands with alcohol hand rub or soap & water
	5		Apply non-sterile gloves (use sterile gloves if you must touch the Key-Parts)
	6		Prepare Equipment protecting Key-Parts with non-touch technique (NTT) and Micro Critical Aseptic Fields (Caps & Covers)
Patient zone	7		Remove gloves, Clean hands with alcohol hand rub or soap and water
	Omit steps 7 & 8 if able to proceed directly to step 9 without glove contamination		
	8		Clean hands with alcohol hand rub or soap & water
Decontamination Zone	9		Apply PPE (use sterile gloves if you must touch the Key-Parts)
	10		Remove passive disinfection cap, if in use, and / or 'Scrub the Hub'
	<p><b>'Scrub the Hub'</b></p> <ul style="list-style-type: none"> <li>– Open a 2% chlorhexidine/70% alcohol wipe</li> <li>– Scrub the Hub TIP for 30secs creating friction using different areas of the wipe</li> <li>– Wipe AWAY from the tip</li> <li>– Allow to dry before use</li> </ul>		
	11		Administer IV Medication using NTT. Apply passive disinfection cap, if applicable.
Decontamination Zone	12		Dispose of sharps and equipment
	13		Dispose of PPE
	14		Clean hands with soap & water or alcohol hand rub
	15		Clean tray according to local policy
	16		Clean hands with alcohol hand rub or soap & water
			Complete medicine kardex™ and any other appropriate documentation

**Preparation zone**

1 Gain consent, explain procedure and position patient appropriately.

2 Clean hands with soap & water or alcohol hand rub

3 Clean tray or trolley creating a main general aseptic field. If using gloves – remove and decontaminate hands

4 Gather all equipment and place on bottom shelf of trolley

5 Clean hands with alcohol hand rub or soap & water

6 Clean hands with alcohol hand rub or soap & water

7 Apply non-sterile gloves

8 Remove dressing using non-touch technique (NTT). Dispose of dressing

9 Dispose of gloves

10 Clean hands with alcohol hand rub or soap and water

11 Open supplies. Protect within Micro-Critical Aseptic Field and NTT on a General Aseptic Field

12 Apply non-sterile gloves

**Patient Zone**

12 Clean wound using a NTT

13 Dress wound using a NTT

14 Dispose of equipment, waste and gloves, then remove and dispose of apron

15 Clean hands with alcohol hand rub or soap and water

**Decontamination Zone**

16 Clean tray and trolley according to local policy. If using gloves – remove and decontaminate hands

17 Clean hands with alcohol hand rub or soap and water

Preparation zone	1		2		3		4		5		6				
	Gain consent, explain procedure and position patient. Patient cleans hand and arm		Clean hands with soap & water or alcohol hand rub		Clean tray, creating a General Aseptic Field. If using gloves – remove and decontaminate hands before next step		Gather all equipment		Clean hands with alcohol hand rub or soap & water		Prepare Equipment protecting Key-Parts with non-touch technique (NTT) and Micro Critical Aseptic Fields (Caps & Covers)				
	Patient Zone	7		8		9		10		11		12		<p><b>If attempt to draw blood is unsuccessful, return to Step 8</b></p>	
		Clean hands with alcohol hand rub or soap and water and apply apron		Position arm, apply disposable tourniquet and palpate vein, loosen tourniquet after suitable vein located		Clean hands with alcohol hand rub or soap & water		Apply non-sterile gloves, reapply tourniquet		Clean skin with a 2% chlorhexidine and 70% isopropyl alcohol wipe/applicator and cross hatch method for 30 secs		Allow skin to dry. Access patient's vein protecting Key-Parts and Key-Sites using NTT (if repalpation is necessary, reclean the skin)			
		13		14		15		Decontamination Zone		16		17			<p>Complete documentation and ensure samples are labelled appropriately</p>
		Dispose of sharps and equipment		Dispose of PPE		Clean hands with soap & water or alcohol hand rub				Clean tray according to local policy		Clean hands with alcohol hand rub or soap & water			

# NHSGGC Peripherally Inserted central Catheter (PICC) – Dressing Change using Surgical-ANTT



*Different PICC dressings and fixations require different handling. Use ANTT risk assessment to determine standard or surgical ANTT approach.*

**Gain consent,** explain procedure and position patient appropriately.

Preparation zone



1

**Clean hands** with soap & water or alcohol hand rub



2

**Clean preparation surface** creating a General Aseptic Field. If using gloves – remove and clean hands before next step



3

**Gather all equipment**



4

**Clean hands** with alcohol hand rub or soap & water

Patient Zone



5

**Clean hands** with alcohol hand rub or soap & water



6

**Apply PPE.** Use sterile gloves if Key-Parts or Key-Sites may / could be touched



7

**Remove dressing** using non-touch technique (NTT)



8

**Dispose of waste** and remove gloves



9

**Clean hands** with alcohol hand rub or soap & water



10

**Open equipment** onto Critical Aseptic Field. **Clean hands** with alcohol hand rub or soap & water



11

**Apply sterile Gloves,** organise equipment maintaining asepis



12

**Clean exit site** using 2% chlorhexidine in 70% isopropyl alcohol using NTT. Use sterile swab to hold line. Allow to dry



13

**Apply dressing** including fixation device using NTT



14

**Dispose of equipment** waste, gloves and then apron



15

**Clean hands** with alcohol hand rub or soap & water

Decontamination Zone



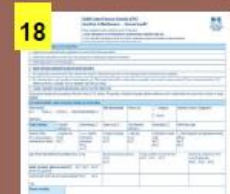
16

**Clean tray / trolley** according to local policy. If using gloves – remove and clean hands



17

**Clean hands** with soap & water or alcohol hand rub



18

**Complete relevant** documentation