Imperial College Healthcare
NHS Trust

ANTT (Aseptic Non Touch Technique)

Study Guide

Content

Glossary

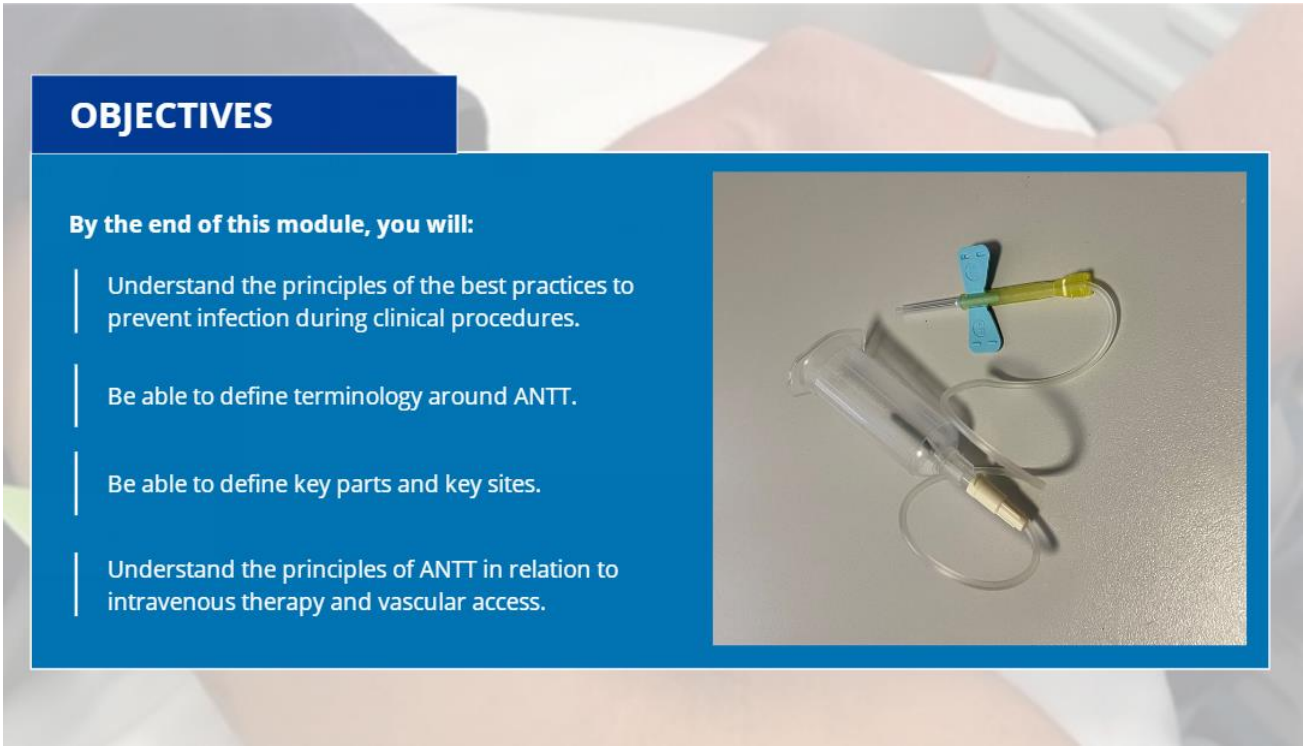
Asepsis or aseptic	Free from pathogenic micro-organisms.
Aseptic technique	The method used to prevent the introduction or transfer of potentially pathogenic organisms to susceptible sites; associated with sterile gloves and in some instances a controlled environment.
Aseptic Non Touch Technique (ANTT)	Using the principle of aseptic technique ensuring that key parts and key sites remain aseptic by a concept termed key part and key site protection.
Key parts	Those parts of the equipment that are sterile and will come into contact with tissue unprotected by the body's natural defences or penetrate the defences and if contaminated are most likely to cause infection.
Key sites	Key sites are open wounds, including insertion and puncture sites for invasive medical devices.
Susceptible sites	Parts of the body which are not protected from invasion by pathogenic bacteria, such as mucous membranes or where the body's protective defences are breached, e.g. wounds or devices that penetrate the skin.
Sterile	"Free from micro-organisms". This is performed in a specialist environment, e.g. an operating theatre.
Transient micro-organisms	Located on the skin surface and are acquired by direct contact with other people (including body sites), the environment and equipment. These organisms are readily transferrable to susceptible sites and can cause infection.

1. Introduction and objectives

Introduction

This module has been developed to provide training and education around ANTT in order to improve our practices around intravenous therapy and vascular access to prevent complications such as blood stream infections.

This module enhances our IPC mandatory module with a focus on the key areas of practice that have been identified at Imperial as needing improvement.



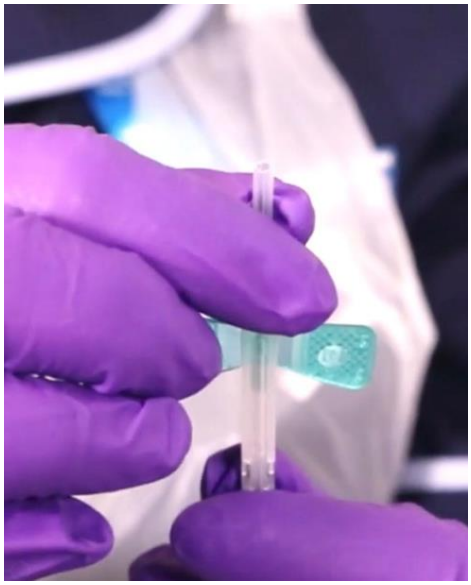
2. The principles of ANTT

An aseptic technique aims to prevent micro-organisms (either from the hands, the environment or equipment) being introduced into a susceptible site on a patient during a procedure.

ANTT is a framework for ensuring the consistent application of the principles of asepsis across a range of clinical procedures.

During an ANTT procedure, it's important to ensure that:

- Hands do not come into contact with key sites and key parts.
- Key parts of sterile equipment do not touch any surface that is not sterile prior to contact with the susceptible site.
- The aseptic field is a controlled working space that is free from pathogenic micro-organisms and protected from contaminants.



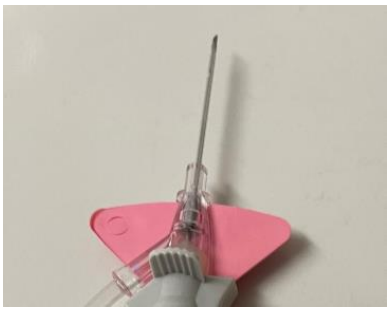
KEY PARTS AND KEY SITES

When performing an ANTT procedure, it is important that you protect both the key parts and the key sites.

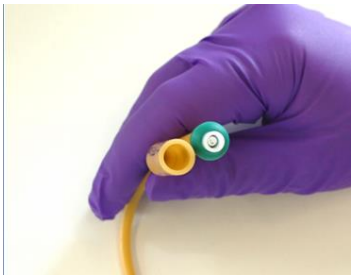
a) Key parts

Key part – part of equipment which, when touched, could potentially cause an infection

1. **Bevel of a cannula**



2. **Urinary catheter – tip and whole catheter**



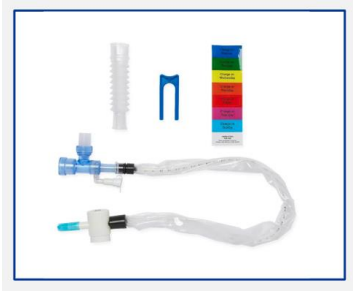
3. **Septum of a needle free connector**

4. **Syringe tip and safety hypodermic needle**

5. **Dressings – the parts that come into contact with skin and wounds**

6. **Rubber tops of vials containing medications**

7. **Endotracheal suction tubing coming into contact with mucous membranes.**



b) Key sites

Key site – part of patient's body which, when touched, could potentially cause an infection, eg could be a wound, insertion and access sites for a medical device

1. Skin for insertion sites of vascular access devices and catheters 	**2. Surgical wounds** 
3. Non-intact skin 	**4. Mucous membranes** 

THE PRINCIPLES OF ANTT

One of the key aspects of ANTT is ensuring adherence to the five moments of hand hygiene. We'll look at hand hygiene in the next section.

3. Effective hand hygiene

Please watch the film 'Hand Hygiene'

4. Personal protective equipment (PPE)

PPE STANDARDS

It is important that you carefully uphold standards when preparing to perform a procedure.

Procedure

Use sterile or clean equipment, as appropriate.

Minimise contamination of key parts (of equipment) and key sites (skin, wound, etc.) by a combination of proactive measures. For example, decontamination of hands and by the adoption of a non-touch technique at all times, wherever possible.

Safely dispose of sharps at the point of care.

STERILE VS NON-STERILE GLOVES VS NO GLOVES

Gloves are worn when there is contact with blood, bodily fluids and mucous membranes or a patient has an infection where gloves are deemed necessary.

Sterile gloves are primarily used in medical environments to conduct surgical procedures, to avoid cross-contamination risks. Meanwhile, non-sterile gloves are commonly used for clinical procedures that do not pose a high threat of infection.

Sterile gloves

- Inserting central venous access devices.
- Preparation and connection of parenteral nutrition to central venous access devices.
- Dressing central venous and arterial devices.
- Insertion of an epidural.
- Lumbar puncture.
- Cleaning and re-dressing acute wounds.
- Removal and manipulation of surgical drains.
- Arterial puncture.

Non-sterile gloves ✓

- Venepuncture.
- Blood sampling from a central venous access device or an arterial line.
- Preparation and administration of intravenous (IV) cytotoxic and irritant drugs.
- Sampling from a urinary catheter and drains.
- Removal of all wound dressings.
- Insertion of a peripheral cannula.
- Endotracheal suctioning of respiratory secretions.

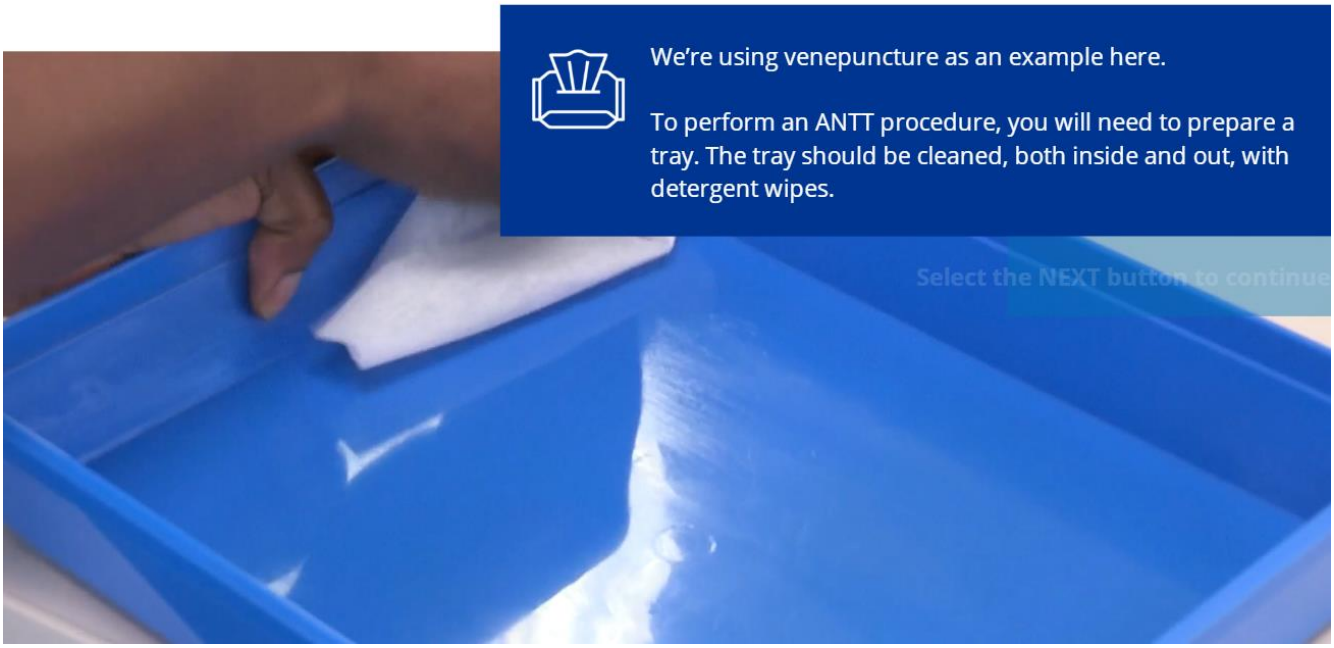
No gloves ✓

In some situations, after hand hygiene, no gloves are required. For example:

- Administering intravenous therapy.
- Escorting a patient to another department.
- Assisting in rehabilitative exercises.
- Performing observations.

5. Preparing for an ANTT procedure

PREPARATION – EQUIPMENT

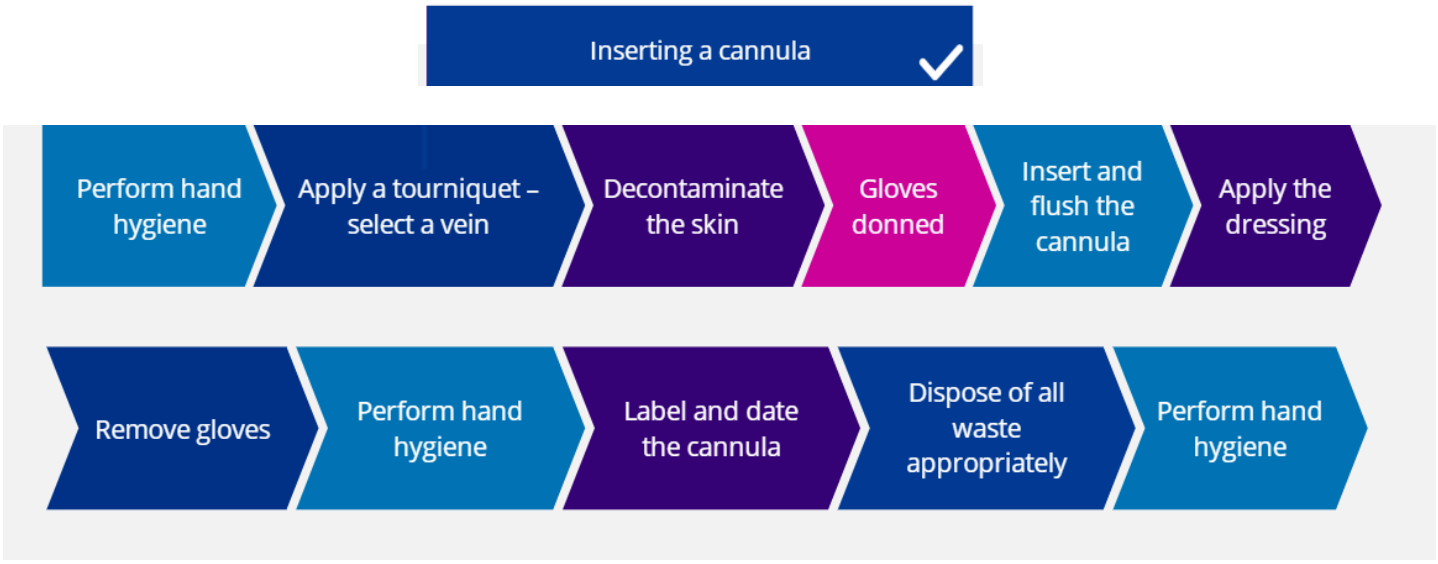


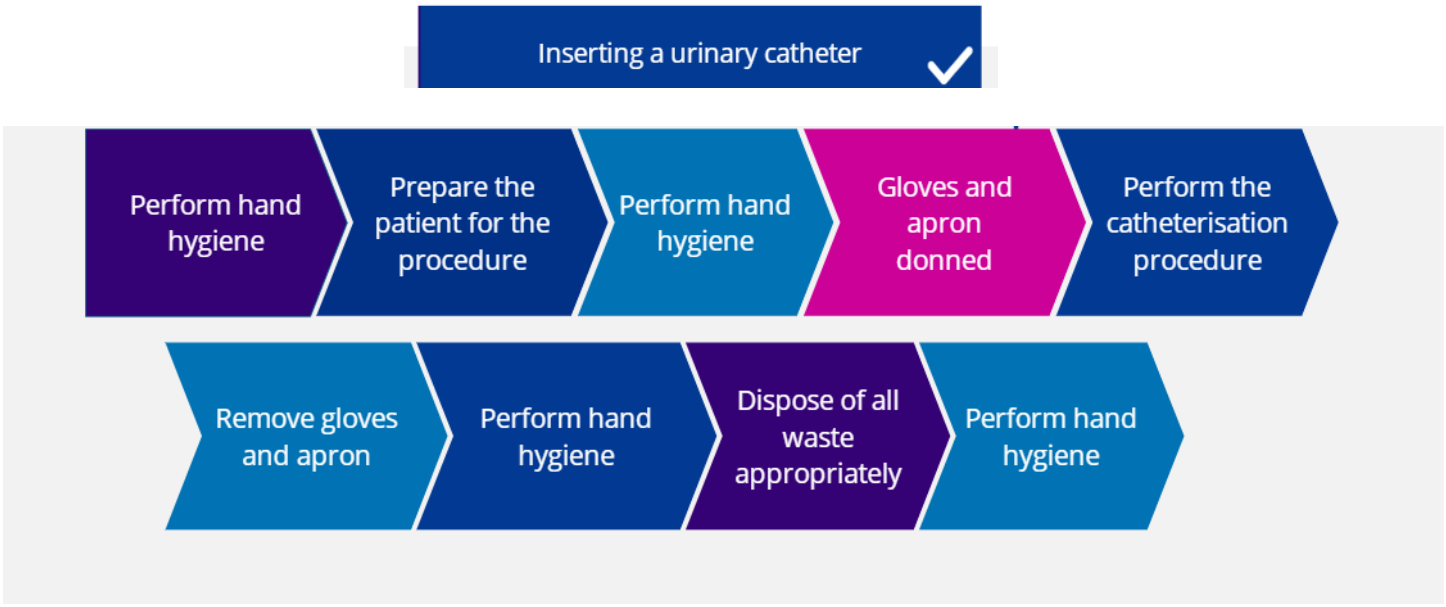
PREPARING THE EQUIPMENT

Once the tray is dry, add the items to the tray.

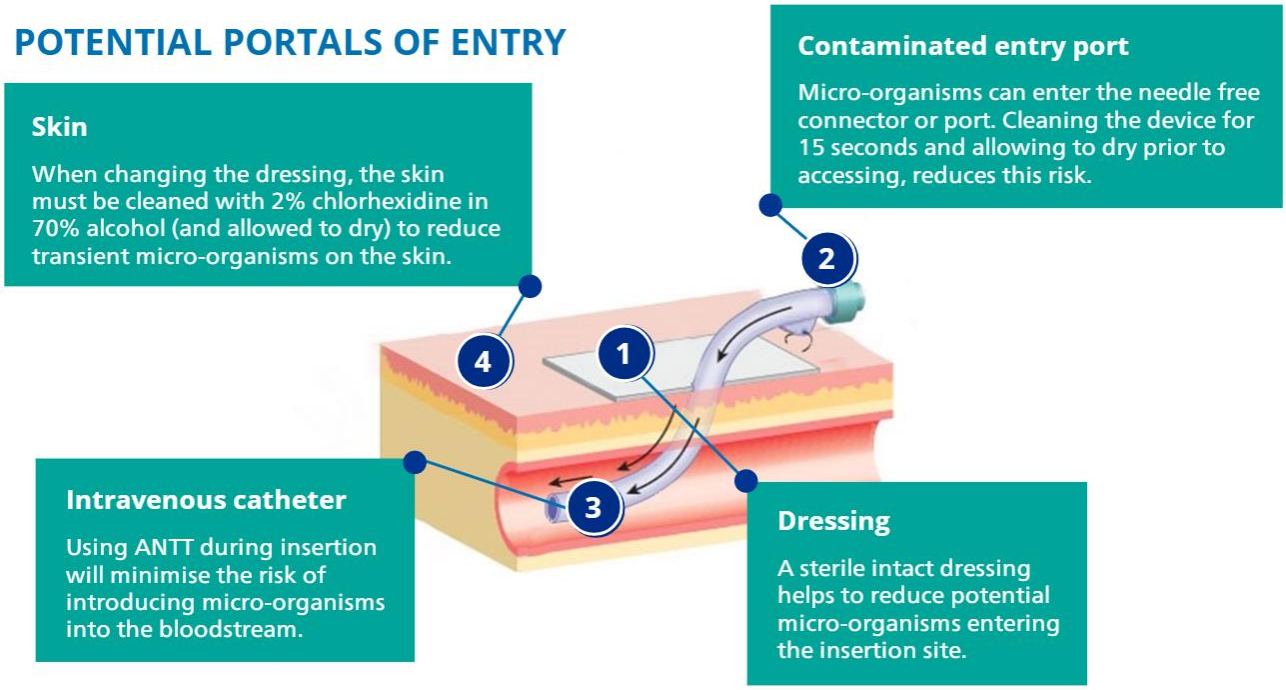
WHEN TO APPLY GLOVES DURING ANTT

It is important to understand when, within a procedure, you should put on your gloves.



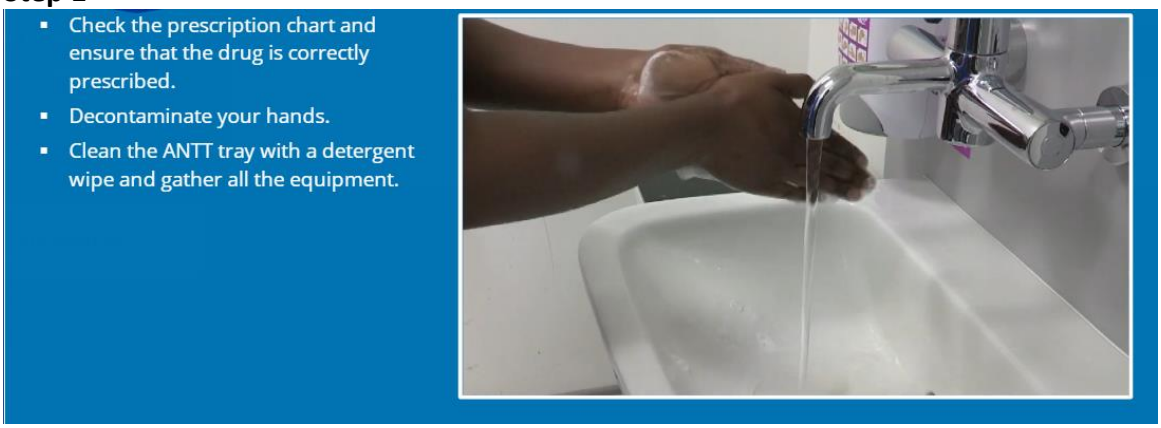


6. Intravenous therapy



Steps for infusion

Step 1



Step 2

- Prepare the infusion to be administered as per the local infusion guide and the patient's prescription, using ANTT.
- Check expiry dates.
- Check that the drug is able to be infused via the current vascular access device.
- Complete an additive label and attach to the syringe or infusion bag.
- Prepare a compatible flush.
- Proceed to the patient.

Step 3

- Check the patient's identity against the prescription chart.
- Explain and discuss the procedure with the patient.
- Decontaminate your hands.
- Inspect the insertion site of the cannula and record the Visual Infusion Phlebitis (VIP) score.
- Ensure that the dressing is secure.
- Identify any infusions in progress and if infusions are to run concurrently, check compatibility.
- Decontaminate your hands.
- Connect the infusion bag to the administration set and prime.
- Load the infusion into the appropriate medical device as per the manufacturer's instructions.
- Decontaminate your hands.

Step 4

- **Clean the needle free connector with 70% alcohol and 2% chlorhexidine wipe for 15 seconds and allow to dry**.
- Administer a compatible flush using ANTT.
- Observe the insertion site and ask the patient to voice any discomfort or pain.
- Important: Check patency of your central venous catheter by aspirating before administering your medication. This is to prevent the inadvertent bolus of drugs that may have been left in the lumen and ensure that the catheter remains in the vein.

Step 5

- Connect the administration set to the needle free connector.
- Commence the infusion at the prescribed rate and volume to be administered.
- Ensure that the dressing is secure.
- Dispose of all the equipment as per the Trust's policy.
- Decontaminate your hands.
- Document the administration in the patient's prescription chart.

Infections

Bloodstream infections can be introduced via vascular access devices.

Risk factors

Vascular access devices are susceptible to infectious complications because bacteria can migrate into the blood via the portals of entry.

For example, inadequate decontamination of the needle free connector, inadequate hand hygiene and non-intact dressings.

Solution

An aseptic non-touch technique must be adopted when inserting, accessing or removing vascular access devices.

- All vascular access devices must be accessed aseptically and cleaned with 2% chlorhexidine in 70% isopropyl alcohol before use.
- Keep the number of vascular access devices to a minimum – and confirm whether any device is still required. If there are no further clinical indications, then the device should be aseptically removed.
- All associated equipment must be cleaned daily and after each patient's use – including drip stands and electronic infusion devices.
- If a vascular access device infection is suspected, take paired blood cultures and consider removing the device.
- If the device is removed, the tip should be sent for culture and sensitivity testing.

7. Handling needle free connectors

DECONTAMINATING NEEDLE FREE CONNECTORS

Decontaminate the needle free connector with 2% chlorhexidine and 70% isopropyl alcohol for 15 seconds.

Leave to dry for 30 seconds.

If drying time is not adhered to, micro-organisms may still be present and can potentially cause intralumenal infection leading to a catheter-related bloodstream infection.

Decontaminating the needle free connector is imperative to prevent bloodstream infections.

FLUSHING NEEDLE FREE CONNECTORS

0.9% Saline is used for flushing the lines in a 10mL syringe before and after each drug administered.

When flushing and administering your medication, adopt the push/pause technique.

This method creates a turbulent flow of the infusions inside the cannula and vein to minimise or prevent the mixing of incompatible medications or solutions.

Preventing the accumulation of medication precipitate inside the lumen, reduces the risks of a potential blood clot and reduces the risk of reflux.

8. Summary

It is crucial that all Trust staff have a good understanding of the principles of ANTT. Whether you work in an acute or community setting, you should now be able to apply the principles of ANTT and adapt them to the environment you work in. Remember, when undertaking ANTT:

Always decontaminate your hands effectively.	**N**ever touch key parts.	**T**ouch non key parts with confidence.	**T**ake appropriate IPC precautions.

ANTT practice is standardised and included in all Trust clinical guidelines, policies and standard operating procedures, where it is a requirement.