B5.4.1 ANTT for peripheral and central access intravenous therapy

Typically, IV maintenance procedures will be assessed as requiring Standard ANTT with the employment of a main general aseptic field and critical micro aseptic fields.

Figure B5.1: Aseptic non-touch technique for peripheral and central access intravenous therapy

Table B5.1: Aseptic non-touch technique for peripheral and central access intravenous therapy

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perform hand hygiene</td>
</tr>
<tr>
<td>2</td>
<td>Use a clean tray</td>
</tr>
<tr>
<td>3</td>
<td>While the tray is drying, gather equipment</td>
</tr>
<tr>
<td>4</td>
<td>Perform hand hygiene</td>
</tr>
<tr>
<td>5</td>
<td>Apply non-sterile gloves (use sterile gloves if you must touch key parts)</td>
</tr>
</tbody>
</table>

This will break any potential transmission of infection from the clinical ward environment to the clean preparation area/room. Effective hand hygiene is vital to reduce the risk of contaminating key parts/sites.

Such a tray provides a sufficiently large, robust and controlled working area. Reprocess re-usable trays according to local policy.

Hands are contaminated when gathering equipment from storage cupboards etc. It’s important therefore to gather all equipment before performing hand hygiene at Step 4. Gathering equipment at this point also allows the tray to dry properly and saves a little time.

This occurs immediately before assembly of equipment and the preparation of drugs. This way, hands are optimally clean prior to glove application and non-touch technique key part manipulation.

Primarily, gloves are worn to protect the user from drug exposure and blood products. All peripheral and central access IV procedures
should be performed without touching key parts. Therefore, non-sterile gloves will nearly always be the logical and efficient glove choice. In the event the healthcare worker unknowingly touches a key part, non-sterile gloves also act as a safety net as they are typically cleaner than skin.

### 6 Assemble equipment and prepare medications — protect key parts using non-touch-technique

A non-touch technique is the most important component of aseptic practice because a key part cannot be contaminated directly if it is not touched. Key parts should be protected throughout the procedure when they are not in use. This can be achieved by using sterilised IV bungs or the inside of syringe packets. Both systems provide critical micro aseptic fields around the key part.

### 7 User assessment:

- **If gloves become contaminated** — decontaminate hands and re-glove
  
  This is necessary when it is not possible to proceed from preparation to administration without contaminating gloved hands (e.g. due to prepping a patient).

- **If gloves remain uncontaminated between steps 6 and 7 proceed directly to step 7**
  
  Where it is possible to retain the asepsis of gloved hands between preparation and administration, the user does not need to decontaminate hands between administration and preparation. This will promote compliance and save time.

### 8 Clean key parts

2% chlorhexidine/70% alcohol wipes is the application of choice (Pratt et al 2007). In addition, the benefit of using friction and allowing key parts to dry has been demonstrated by Kaler and Chinn (2007).

**Method:**

A large 2% chlorhexidine and 70% alcohol wipe should be fully unfolded to provide a suitable working surface area.

One side of the wipe should be exposed to the user’s gloved hand, the other side should be introduced to the hub (non-touch technique).

The port tip should be thoroughly wiped hard for 5 seconds — to create friction.

This should be repeated 4 times using different parts of the tissue (to remove dirt from the tip). After cleaning the hub clean the sides of the port and line, working away from the port tip.

Allowing the hub to air dry promotes asepsis.

This technique provides the required level of friction. Using different parts of the wipe ensures any dirt is transferred from the hub to the wipe. The hub must dry before use otherwise it won’t be aseptic (if organisms have remained, a wet tip will facilitate their transportation into the patient on injection).

### 9 Administer medication using non-touch technique

Key parts cannot be contaminated by contact if they are not touched. A non-touch technique should therefore be used even if the user is wearing sterile gloves (because once sterile gloves are open to air they are no longer sterile, and can also be inadvertently contaminated by touch). If necessary, a small sterilised towel can be placed under a patient’s line to promote safe handling.

### 10 Dispose of sharps and equipment then dispose of gloves

Sharps are best disposed of at the bedside if possible (on the basis that the quicker they are disposed of the less chance there is of an accident).

### 11 Clean tray

Re-usable trays are reprocessed at the end of the procedure to prevent cross infection between patients and staff. Trays are reprocessed according to local policy.

### 12 Perform hand hygiene

It is essential that the post-procedure hand hygiene is performed immediately after glove removal i.e. before contact with the environment (because gloves encourage the hands to sweat-out organisms from the skin).

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