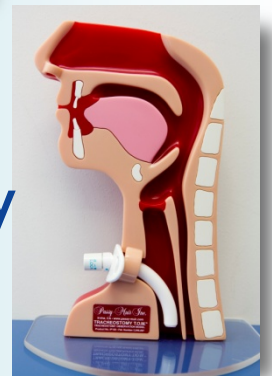




# MDH Guide to Clinical Nursing & Midwifery Procedures





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# Preface

## Why do we need this book?

The Nursing Management in line with the main objectives of Mater Dei Hospital is always striving to improve standardisation of nursing skills in the clinical area. To this effect there was a felt need to have an accessible quick reference booklet to all nurses working in the general wards listing guidelines relating to the most common clinical skills undergone routinely in the clinical practice. Hence, the ultimate aim of this clinical booklet is to have step by step guidelines with regards to the basic nursing skills by which conformity and uniformity in practice shall be maintained. Quality assurance can thus be attained enhancing measurable quality performance and outcomes.

It is intended that any employee who is recruited as a nurse/midwife at Mater Dei hospital use these guidelines as a benchmark to nursing practice. Consequently, the clinical guidelines enlisted in this booklet are to be used as golden standards to which one can compare practice, especially when audits are conducted with the aim to improve clinical practice. Great attention was paid in the formulation of these guidelines, so that they are easy to read, flowing and constructed in such a way that one might depict the procedure whilst reading it.

Attention needs to be brought to nurses and midwives, the main target audience of these guidelines, that this is not a text book: hence it does not include all the theory and rationale pertaining to each procedure. This document focuses on the 'hands on' procedure and not on the 'why' the procedure is necessary. It is intended to be used as a reference and a ward resource and not as a replacement for practice based education and reflection. Most of the guidelines are concise versions of a much more detailed and explored clinical procedures. Such exhaustive procedures can be easily accessed from the respective practice development or specialist nurse, according to the topic in question.

Understandably, the practice of nursing is dynamic and rapidly changing, so the responsibility for amendments and inclusion of other guidelines in the near future so as to apply the most recent evidence based practice in the clinical area, is reserved.

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## 1.1 PULSE RATE RECORDING

1. Explain the procedure to patient to gain consent.
2. Perform hand hygiene.
3. Ensure patient is resting either lying down or sitting.
4. Find the radial pulse at the wrist.
5. Use the first & second fingers to feel the pulse- firmly compress the artery.
6. Count the number of beats per minute (rate per minute).
7. Note the rhythm (regular or irregular) and the strength of the pulse.
8. Note colour of mucous membranes, skin and nail beds.
9. Explain results to patient.
10. Record the findings on the Nursing Observation Flow Sheet and report any abnormalities

## 1.2 BLOOD PRESSURE RECORDING USING THE ANEROID SPHYGMOMANOMETER

1. Explain the procedure to patient to gain consent.
2. Perform hand hygiene.
3. Ensure patient is resting comfortable position-either in a bed, couch or chair.
4. Remove any clothing from underneath the cuff.
5. Apply cuff in a way where the 'bladder' of the cuff is over brachial artery, 2-3 cm above the antecubital fossa.
6. Position the arm so that the cuff is level with the heart.
7. Place the sphygmomanometer on a firm surface, facing you.
8. Locate the radial pulse & squeeze and compress the bulb slowly to inflate the cuff whilst still feeling the pulse.
9. Note the level when the pulse cannot be felt. Then unscrew the valve to quickly release the pressure in the cuff completely.
10. Check that the stethoscope is turned to the diaphragm side by tapping with your finger.
11. Place the diaphragm of the stethoscope on the previously felt brachial artery area.
12. Ensure that the valve on the bulb is closed firmly closed.
13. Inflate the cuff to 20-30mmHg above the level noted when radial pulse was not felt as indicated in step 89.
14. Open the valve to allow pressure to drop slowly.
15. Listen for the Korotokoff sounds.
16. The systolic is where these sounds beats are heard first.
17. The diastolic is where theses sounds beats disappear.
18. Open valve fully to deflate cuff.
19. Remove cuff from patient.
20. Explain results findings to patient.
21. Record the findings on the Nursing Observation Flow Sheet and reporting any abnormalities.

### **Note:**

- *The sphygmomanometer is preferably of the aneroid type.*
- *Electronic blood pressure recording machines are now often used. The cuff is positioned exactly in same way but no stethoscope is required.*

## 1.3 TEMPERATURE RECORDING

### ORAL

1. Explain procedure to patient to gain consent and co-operation
2. Check that the temperature scale is set below the first number mark.
3. Perform hand hygiene.
4. Patient should not have had a hot or cold drink, within the previous 15 minutes when using the oral site.
5. Ask the patient to open mouth and gently insert the thermometer under the tongue, next to the frenulum, so that the temperature would be close to the core temperature in the sublingual artery.
6. Ask the patient to close the lips but not the teeth
7. Leave in position for 4 minutes (depending on type of thermometer).
8. Remove the thermometer, taking care not to touch the part that has been in the patient's mouth.
9. Explain findings to the patient.
10. Record findings on the Nursing Observation Flow Sheet and report any abnormalities.
11. Perform hand hygiene following the procedure.

### AXILLA

1. Explain procedure to patient to gain consent and co-operation.
2. Check that the temperature scale is set below the first number mark.
3. Perform hand hygiene.
4. Ask/assist the patient to expose the axilla and make sure it is dry and free from sweat.
5. Insert the thermometer under the axilla and ask patient to keep arm close against the chest wall with palm of hand facing chest to ensure good contact with the skin.
6. Leave in position for 4 minutes (depending on thermometer type).
7. Remove the thermometer and record the temperature.
8. Explain findings to patient.
9. Record the findings on the Nursing Observation Flow Sheet and report any abnormalities.
10. Perform hand hygiene following the procedure.

## 1.4 TEMPERATURE RECORDING USING AN ELECTRONIC THERMOMETER

*These thermometers are efficient, quick and easy to use, with an audible signal indicating that the reading is complete.*

### ORAL & AXILLA

1. Cover the probe with a disposable cover. (Each cover is for use by one patient only).
2. Place the probe orally or axillary, in same way as another type of thermometer described above.
3. When the audible signal is heard, remove the probe from the oral site or axilla.
4. The temperature is displayed digitally.

## 1.5 THE TYMPANIC THERMOMETER

*These are designed to measure the temperature by inserting a probe into the outer ear, bordering (but not touching) the tympanic membrane. An infrared light detects heat radiated from the tympanic membrane and provides a digital reading. This usually takes only a few seconds when an audible signal indicates that the reading is complete. Although this provides a more accurate measurement of body core temperature as it is close to the carotid artery, it is to be noted that poor technique very often offsets this benefit.*

**Note:**

- *Mercury thermometers are no longer widely used. Mercury is a hazardous substance.*
- *Tympanic and electronic thermometers are increasingly being used.*
- *Normal range for adults is 36°-37.2° Celsius.*
- *If patient is unconscious, confused, prone to seizures has mouth sores or has undergone oral surgery, the oral site is not recommended.*
- *Temperature in the axilla is usually 0.5° Celsius lower than the oral.*
- *Rectal- When compared to the oral and axillar route, it is noted to be one of the precise methods of detecting fever; notwithstanding it is not advocated due to its invasive nature, possible false reading in the presence of soft stools, whilst the risk of rectal ulceration/perforation in infants, is to be stressed.*

## 1.6 WEIGHT RECORDING

1. Encourage the patient to empty the bladder.
2. Weigh the patient on the same scales, at the same time each day / week and in similar clothing.
3. Position the scales for easy access and apply the brakes.
4. Ask / assist the patient to sit on the scales or stand up (depending on type of scales).
5. If sitting, ensure that the patient's feet are off the floor.
6. Note the reading and document in the Nursing Observation Flow Sheet.
7. Report any fluctuation in weight.

## 2.1 BLOOD GLUCOSE MONITORING

1. Explain the procedure to gain consent and co-operation.
2. Perform hand hygiene.
3. Ensure that the patient's hands are clean. If there is a possibility that there may have been contact with substances such as fruit juices, the finger should be wiped with a wet tissue and dried. An alcohol swab should never be used.
4. Put on a pair of gloves.
5. Use a new lancet for every test.
6. Check the expiry date of the testing strips and prepare glucose meter according to the manufacturer's instructions.
7. Make sure that the code on the meter corresponds to the strip that is being used.
8. Hold hand downwards and avoid 'milking' blood.
9. Avoid use of thumb or index finger when pricking.
10. Allow a drop of blood to fall onto the testing strip- do not smear.
11. Ask the patient to press on the site, using a cotton ball to stem bleeding.
12. Read the digital display.
13. Dispose of all sharps and contaminated waste in appropriate containers.
14. Remove gloves and wash hands.
15. Document the results
16. Report any abnormalities.

**Note:**

- *In line with hospital policy, a quality control check on the meter needs to be done.*
- *Blood glucose monitoring has to be carried out immediately before administration of treatment (OHA'S or insulin) i.e. half an hour before meals.*
- *Patients with type 1 diabetes, who are on Novorapid, have to monitor, inject and eat immediately after injecting.*

Step 1



## Taking a blood glucose sample

Step 2



Step 3



Step 4



Step 5



## 2.2 ONE DOSE INSULIN INJECTION

1. Perform hand hygiene
2. Check the type of insulin and check the expiry date.
3. If you are using cloudy insulin, roll the bottle ten times and tip ten times between your hands until it is uniformly cloudy.
4. Never shake a bottle of insulin.
5. Wipe the top of the insulin vial with an alcohol swab.
6. Pull back the plunger of the syringe to measure approximately the same amount of air as the amount of cloudy insulin that you use.
7. Insert the needle through the centre of the rubber bung of the insulin vial, while pushing the air into the insulin vial.
8. Leave the needle in the insulin vial. This makes it easier to draw the insulin out of the vial.
9. Turn the insulin vial and syringe head down.
10. Pull the plunger slowly to get insulin into the syringe, ensuring the right number of prescribed units.
11. Look out for air bubbles in the syringe.
12. Air lock in the syringe corresponds to less insulin.
13. If you have an air lock, push the insulin back into the vial and start from step 8 above.
14. Check the syringe to make sure you have the required units of insulin without air locks.
15. Withdraw the needle out of the vial.
16. Hold the syringe like a pencil.
17. Prevent the needle from touching anything.
18. Pinch up the skin and inject.
19. Leave the needle in for 5-10 seconds whilst keeping the skin stretched.
20. Withdraw the needle and dispose of the syringe in a sharp container.

### 2.3 MIXED DOSE INSULIN INJECTION

1. Perform hand hygiene.
2. Check the name and expiry date of the insulin vials.
3. Wipe the rubber bung of the vials with an alcohol swab.
4. Roll and tip the vial of cloudy insulin ten times. Never shake a vial of insulin.
5. Pull back the plunger of the syringe to measure approximately the same amount of air as the amount of cloudy insulin that is required.
6. Insert the needle straight through the rubber cap of the cloudy insulin vial and inject the air into the vial.
7. Pull back the plunger of the syringe to measure approximately the same amount of air as the amount of clear insulin that is required.
8. Insert the needle straight through the rubber bung of the clear insulin vial and inject the air into the vial. Leave the needle in the insulin vial.
9. Turn the vial upside down keeping the syringe at eye level; make certain that the tip of the needle inside the vial is well beneath the surface level of insulin and pull back the plunger measuring the correct dose of clear insulin.
10. Expel any air bubbles. If these persist expel all the clear insulin and start from step 9.
11. Re-insert the needle into the vial of cloudy insulin. Carefully pull back the plunger until the exact dose of cloudy insulin is measured.

**Note:**

*If too much cloudy insulin is measured. Discard and start all over again.*

## 2.4 INSULIN INJECTION TECHNIQUES FOR ADULTS

Needle length	Angle of injection	Use of skin-fold
4mm	90°	No, unless very slim or injecting in a limb
5mm	90°	No, unless very slim or injecting in a limb
6mm	45°	No, unless injecting into a limb
	90°	Always
8mm	45°	No
	90°	Always
>12mm	45°	Always

### Note:

- *A proper skin fold is made with the thumb, index and middle finger and not by using the whole hand as this risks lifting the muscle with the subcutaneous tissue and can lead to Intra Muscular (I.M.) injections.*
- *Glargine (Lantus) and Aspart (Novorapid) should never be mixed with each other or with any other insulin in the same syringe.*
- *Use separate syringes and different injection sites.*
- *Actrapid, Humulin S and Novorapid are to be injected in the abdomen or arms (arms should always be used with a skin fold raised by a third party) to increase rate of absorption.*
- *Insulatard, Humulin I and Lantus should be injected in the thigh or buttock to allow slow absorption and reduce the likelihood of hypoglycaemia.*
- *U 100 insulin syringes should always be used to correspond with the insulin strength*

## 2.5 ADMINISTRATION OF INSULIN SUBCUTANEOUS INJECTION

1. Perform Hand Hygiene
2. Explain procedure to the patient to gain assistance and co – operation
3. Check the name and dose of insulin against the treatment chart and check the patient's identity band.
4. Wipe the top of the insulin vial with an alcohol swab.
5. Fill the insulin syringe according to the insulin injection techniques for one dose/mixed dose injection.
6. Select the site for administration after having inspected the injection sites making sure that there are no signs of Lipohypertrophy, inflammation, oedema or infection.
7. Pinch the skin by using the thumb, index and middle finger and not by using the whole hand as this risks lifting the muscle with the subcutaneous tissue and can lead to an IM injection
8. Depending on the needle length, choose your angle of injection.
9. If using a 13mm needle inject at an angle of 45 degrees. (Present syringes)
10. When using an 8mm needle inject at an angle of 90 degrees as long as the patient is not emaciated in which case you have to still use an angle of 45degrees.
11. Inject the insulin. Release the pinch. Leave the needle in for 5 seconds and then withdraw the needle.
12. Do not massage or wipe the site.
13. Dispose of the syringe in a sharp container.
14. Sign the treatment chart and the patient profile that the insulin has been administered.

## 3.1 ASSESSMENT OF BREATHING

1. The patient should be relaxed and resting.
2. Do not inform patient that breathing assessment is due to be done.
3. Observe the movement of the chest wall and count the respirations for 60 seconds.
4. Observe the rhythm and depth of the respirations.
5. Observe the patient's skin colour for signs of cyanosis.
6. Observe for symmetry of chest movements and whether accessory muscles are being used.
7. Observe for the following:
  - a. Difficulty in breathing
  - b. Pain on breathing and its location, if present
  - c. Noisy respiration for example - wheezing
  - d. Cough-whether dry or productive
  - e. Sputum-amount, colour and consistency.
8. Record respiratory observations and report any abnormalities.
9. The normal rate should be between 12-20 breaths per minute.

**Note:**

*Cyanosis is a blue discoloration of the skin and mucous membrane. It is most noticeable around the lips, earlobes, mouth and fingertips*

### 3.2 USE OF FACEMASKS AND NASAL CANNULAE

1. Explain the procedure to gain cooperation and consent.
2. Patients and visitors must be made aware of the dangers of smoking when oxygen is being administered.
3. Follow doctor's prescription in relation to oxygen therapy. Ideally this should be done on the treatment chart.
4. Turn on the oxygen flow meter and set the flow rate.
5. Place the mask over the patient's nose and mouth with the elastic strap over the ears to the back of the head.
6. Observe patient's colour / perfusion and respiratory pattern.
7. Offer frequent fluids and perform mouth care.

**Note:**

- *Tubings and masks may be reused several times for the same patient. It should be disposed of in domestic waste when no longer in use. It is recommended that the face mask is washed with soap and water and dried well daily when in use. It should be placed in a plastic bag when not in use by patient.*
- *Oxygen is highly flammable.*
- *If a percentage of oxygen has been prescribed, a special mask that incorporates a Venturi system is used. These are usually colour coded and specify flow of oxygen required to deliver 24 %, 28%, 35%, 40% and 60% oxygen.*
- *If nasal cannulae are used, the flow rate of oxygen is advised not to exceed 4 Lt/minute as it may irritate nasal mucosa, causing epistaxis in some instances.*

### 3.3 USE OF NEBULISER

1. Explain the procedure to gain cooperation and consent.
2. Ask the patient to sit in an upright sitting position.
3. Check the nebuliser solution with the drug administration chart of the patient
4. Unscrew the base of the nebuliser and add the solution, then screw together again.
5. Make sure the face mask/tracheostomy mask is securely attached to the nebuliser.
6. Set the flow metre at approximately 4 L/min.
7. A fine mist should appear in the mask and a hissing sound heard.
8. Place the mask over the patient face/tracheostomy tube if that is the case
9. The patient should remain sitting upright until all solution has vaporised.
10. The nebuliser should be removed once all drug has been vaporised.

**Note:**

- *Oxygen therapy dries the mucous membranes of the mouth. Frequent drinks should be taken or frequent mouth care provided especially if oxygen is not being humidified.*
- *Humidification should always be considered if oxygen therapy is required for prolonged periods and for patients with respiratory infections who have difficulty expectorating sputum.*
- *If the mask is to be used again, it should be cleaned with soap and water and left to dry in a plastic bag at the patient's bedside.*

### 3.4 ASSESSMENT FOR HUMIDIFICATION IN SELF VENTILATING PATIENTS (NOT TRACHEOSTOMY)

1. Assess the patient' need for the requirement of humidification.
2. Explain the need to the patient for cooperation and consent.
3. Connect the oxygen tubing to the humidifier filled with distilled water.
4. Consider referral for physiotherapy if secretions are thick and sticky.
5. Change the distilled water in the humidifier bottle every 24 hours.

**Note:**

*Humidification is generally required if and should be considered:*

- *flow rate exceeds 4 L/min or oxygen concentration is >35 % for more than 24 hours*
- *patient has thick secretions and finds it difficult to expectorate*

*Hence high concentration of oxygen for several days require humidification*

<http://www.icid.salisbury.nhs.uk/ClinicalManagement/Respiratory/Pages/Humidificationprotocol.aspx>

<https://www.nottingham.ac.uk/mhs/documents/clinical-skills/nuh-guidelines/oxygen-therapy.pdf>

### 3.5 THE OXYGEN DELIVERY SYSTEM

#### LOW-FLOW OXYGEN SYSTEMS

The most commonly used are the nasal cannula, simple face masks and non rebreathable masks.

- Do not provide patient a fixed concentration of oxygen.
- Allow room air to mix freely with oxygen provided.

Device	Oxygen concentrations	Advantages & disadvantages	Administration
Nasal Cannula	22-45%  (1-4 Lt.P.M.)	Effective for low oxygen concentrations  Dries mucous membranes.	Maximum flow is 4 Lt.P.M..  Change to another device if patient requires > 5 Lt.P.M..  Humidify for liters flow >4 Lt.P.M..
Simple face mask	25-60%  (6-10 Lt.P.M.)	Can be claustrophobic.  Delivers unpredictable concentration that vary with inspiration flows.  Not suitable for COPD  Delivers O <sub>2</sub> concentration between 35%-60%  Does not dry out mucous membrane	A minimum of 6 Lt.P.M. is required for all masks to flush expired carbon dioxide and prevent rebreathing of carbon dioxide.  Do not use humidifier and fit firmly.  Usually used for asthma, pneumonia, trauma or severe sepsis.
Non-rebreathable mask	80-95%  (10-15 Lt.P.M.)	Delivers the highest possible oxygen concentration without intubation.  Short term therapy.	Reservoir bag must remain inflated at all times.  Do not use humidifier bottle.  -if bag collapses, increase flow rate until inflated.

## HI-FLOW OXYGEN SYSTEMS

- The most commonly used is the Venturi mask.
- They deliver fixed concentration of oxygen regardless the inspiratory flow or breathing pattern.

Device	Oxygen concentrations	Advantages & disadvantages	Administration
Venturi Mask	24-60%	Delivers highly accurate oxygen concentration.  Requires a high seal.	Accurate oxygen concentration depends on oxygen litre flow and colour of attached Venturi device.  Use on COPD patients.

### 3.6 PEAK FLOW MEASUREMENT

1. Explain the procedure to gain cooperation and consent.
2. The patient should be resting and possibly in an upright position.
3. Perform hand hygiene.
4. Attach the mouthpiece and set peak flow meter at zero.
5. Instruct the patient to inhale deeply, place the lips around the mouthpiece and holding the meter horizontally, instruct patient to exhale forcibly.
6. Note the measurement.
7. Repeat the procedure for two more times.
8. Record the highest of the three measurements.

*Note:*

*Peak flow measurement is recorded twenty minutes post nebulisation.*

### 3.7 PULSE OXIMETRY

1. Explain the procedure to gain cooperation and consent.
2. Apply sensor either to ear lobe or one of the fingers.
3. If using the fingers, any false nails or nail polish should be removed.
4. Observe the waveform on the monitor.
5. Set alarm limits on the pulse oximeter.
6. If continuous oxygen saturation monitoring is needed, change the sensor site every 4 hours.
7. Document oxygen saturation records in the nursing notes and report any abnormal findings.

**Note:**

- *The normal level of oxygen saturation is 94%-98%.*
- *Patients with jaundice may have false high readings due to high serum bilirubin levels.*
- *Pulse oximetry could be difficult to obtain in patients having compromised peripheral circulation since peripherals might be cold.*

### 3.8 OBTAINING A SPUTUM SAMPLE

1. Explain the procedure to patient and the number of specimens required.
2. Ask the patient to rinse their mouth with water.
3. Ask the patient to expectorate in a sterile pot.
4. Seal the lid and complete the label with the date, patient's name and number and type of specimen.
5. Place the pot and laboratory request form in a plastic bag.
6. Document that the specimen has been obtained.
7. Observe the sputum for the following:
  - a. Quantity
  - b. Consistency-watery, frothy, tenacious (sticky).
  - c. Colour- white-mucous; yellow/green-pus; red-fresh blood
  - d. Odour- foul smelling or no smell

**Note:**

- *Three consecutive tests may be required for cytology (malignant cells) or acid-fast bacilli*
- *The mouth should be rinsed with water before expectoration (not mouth wash) to reduce contamination of specimen*

### 3.9 OBTAINING A SPUTUM TRAP (TO OBTAIN A SPECIMEN BY SUCTIONING)

1. Explain the procedure to patient and the number of specimens required.
2. Ask the patient to rinse their mouth with water/provide mouth care.
3. Obtain a sterile mucus trap, using aseptic or non-touch technique:
  - a. Put on protective equipment.
  - b. Attach the sputum trap to the suction apparatus. Care must be taken to ascertain that the suction catheter – the part that introduced in the patient - remains sterile.
  - c. Preoxygenate the patient as needed.
  - d. Perform tracheal suctioning via either nasotracheal route, endotracheal route or tracheostomy. No suction should be applied on insertion of the suction catheter. Apply continuous suction for no longer than 10 seconds while withdrawing the catheter.
  - e. Detach the mucus trap, Seal the lid and complete the label with the date, patient's name and number and type of specimen.
  - f. Flush the suction tubing and dispose of equipment appropriately.
4. Place the sputum trap and laboratory request form in a plastic bag.
5. Document that the specimen has been obtained.
6. Observe the sputum for the following:
  - a. Quantity
  - b. Consistency-watery, frothy, tenacious (sticky).
  - c. Colour- white-mucous; yellow/green-pus; red-fresh blood
  - d. Odour- foul smelling or no smell



### 3.10 ORAL-PHARYNGEAL SUCTIONING (ADULTS ONLY)

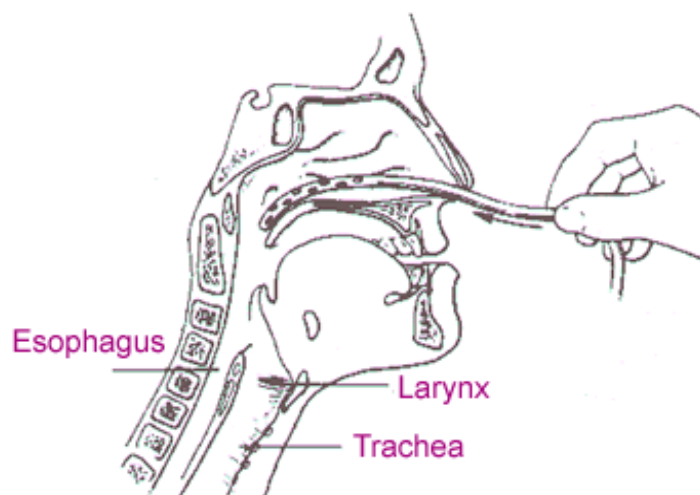
1. Explain the procedure to gain consent and cooperation from the patient.
2. Position patient in a semi recumbent position.
3. Perform hand hygiene.
4. Wear protective equipment, including gloves, apron and eye wear.
5. Switch suction unit on and check that the suction machine is set at 20Kpa or 120 mmHg for adults.
6. Gently and without applying suction, insert the oral sucker (Yankauer sucker or suction sucker size 12 Fg) into patient's mouth, along one side and guide it along the side of the cheek towards the oropharynx, taking care not to make the patient's gag by inserting too far.
7. Apply suction by moving the sucker to all parts of the mouth as necessary.
8. Apply mouth care, using chlorohexidine mouthwash and foams or toothpaste and tooth brush, after suctioning.
9. The oral sucker if not disposable, may be used again on the same patient provided that it is left clean and in a plastic bag in between uses. However, it is urged to be changed weekly or more often if required.
10. Water should be aspirated through the suction the suction tubing. The tubing of single patient use must be changed at a maximum frequency of 5 days.
11. Disposable suction liners should be emptied daily irrespective of the amount of aspirate. It should never be filled to greater than 2/3 full. They must be sealed securely and disposed of as clinical waste.
12. Document that oral suctioning has been done, noting the amount and appearance of the secretions (i.e. colour, tenacity and quantity).

**Note:**

*The patient should be observed throughout the procedure to ensure their general condition is not affected.*

### 3.11 NASO-PHARYNGEAL SUCTIONING

1. Explain the procedure to gain consent and cooperation.
2. Position the patient in a semi-recumbent position.
3. Perform hand hygiene.
4. Put on protective equipment, including disposable apron, protective eye wear and gloves.
5. Switch suction unit on and check that the suction machine is set at 20Kpa or 120mmHg for adults.
6. Estimate the distance between the patient's ear lobe and nasal tip and mark this point on the catheter which should be size 10 Fg or 12 Fg.
7. Without applying suctioning, introduce catheter into one nostril pushing it gently towards the back of the nose with an upward inclination until the mark.
8. Apply suction and smoothly withdraw the catheter back through the nose.
9. Do not suction for longer than 15 seconds at a time.
10. Note the colour, tenacity and quantity of the secretions.
11. Remove the glove from dominant hand by inverting it over the used catheter and dispose.
12. Water should be aspirated through the suction tubing. The tubing of single patient use must be changed at a maximum frequency of 5 days.
13. Perform hand hygiene.
14. If a Naso Gastric Tube is in situ, reconfirm tube position.
15. Disposable suction liners should be emptied daily irrespective of the amount of aspirate. It should never be filled to greater than 2/3 full. They must be sealed securely and disposed of as clinical waste.



### 3.12 CARE OF TRACHEOSTOMY (STOMA SITE)

1. Explain the procedure to gain consent and cooperation from the patient.
2. The procedure is easier if patient is in recumbent or semi-recumbent position.
3. Raise the bed to a comfortable working height.
4. Perform hand hygiene.
5. Wear protective equipment, including apron, gloves and eye wear.
6. Perform suction if required i.e. ineffective spontaneous cough, increase work of breathing, coarse crackles upon auscultation and low  $SP_{O_2}$ . (Refer to tracheal suctioning section)
7. Open the dressing pack, tracheostomy dressing (if applicable) and 0.9% Normal Saline.
8. Using the yellow bag as a glove, remove the old dressing, when present.
9. Attach the yellow bag on the trolley.
10. Use gauze swabs to clean the tracheostomy area and dry thoroughly. In the case of a fresh tracheostomy, this procedure should be done aseptically with a non touch technique. In an established tracheostomy, this procedure should be done as a clean procedure.
11. Apply the keyhole dressing around the stoma/under the flange of the tracheostomy tube.
12. Make sure that the tracheostomy tube is tied securely to avoid dislodgement. If too loose or too tight, refer to change of tracheostomy ties.
13. Ensure patient is comfortable and there is no respiratory distress.
14. Discard all clinical waste appropriately
15. Remove apron and perform hand hygiene.
16. Document the dressing change, noting the appearance of the tracheostomy site.

**Note:**

- *Peristomal skin which is soggy and wet from exudate, may result in maceration or breakdown. However, skin breakdown and incision site infection can be avoided, by regular secretion removal.*
- *The dressing should be inspected frequently.*
- *Frequency of secretion removal should meet the individual needs of the patient.*
- *The nurse call should be left in close proximity to patient especially when patient is unable to phonate.*



Equipment needed at bedside when tracheostomy is in situ

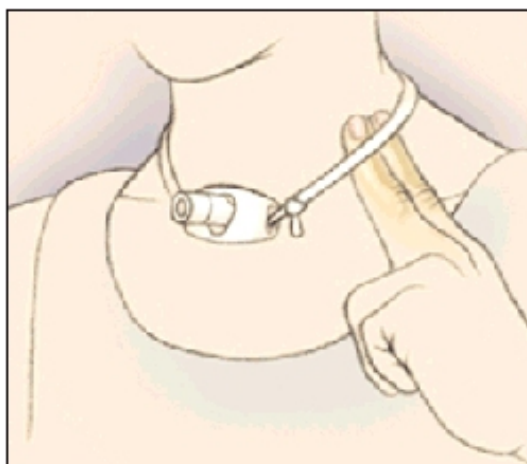
### 3.13 CHANGE OF TRACHEOSTOMY TIES

*Velcro tube holders are routinely used for cooperative patients with tracheostomy, nonetheless, if there is a risk that the patient might pull out the tube, cotton ties would be the preferred method of securing the tube in position. The tapes/Velcro tube holders only require changing when soiled. Soiled or wet tapes can cause excoriation of the neck skin. Two healthcare workers should be present, as this procedure can make the patient cough and potentially dislodge the unsecured tracheostomy tube. One healthcare worker will replace the tapes while the second will hold the tracheostomy tube in place by the flange.*

1. Perform hand hygiene and wear protective equipment, including gloves, apron and eye wear.
2. Assistant should hold tube in position, using their thumb and index finger or index finger and middle finger. Minimal pressure should be applied.
3. Tape changer should cut the ribbon tapes between the knot and the flange or open the velcro tube holders and remove the dirty ties.
4. The stoma site (above, below and under each flange) and back of the neck should be inspected, cleaned and thoroughly dried with water/normal saline and gauze using a clean technique.

#### FOR COTTON TIES

1. Cut one piece of cotton tapes approximately 100cm in length (dependant on neck size).
2. Fold the tape in two and thread the folded edge through one flange that is furthest away from the tape changer, forming a loop.
3. Thread the loose tape ends through this loop and pull until tight and secure.
4. Thread a single strand of the cotton tape through the flange nearer to the tape changer, and make a bow.
5. Check tape tension by slipping one finger comfortably between the ties and the patient's neck.
6. If the ties are too tight or loose, undo the bow and readjust tension.
7. If the tension is correct, pull the loops of the bow through to create a second knot.
8. Tie one further knot to secure the ties.
9. Cut off excess tape, leaving at least a ½ inch.

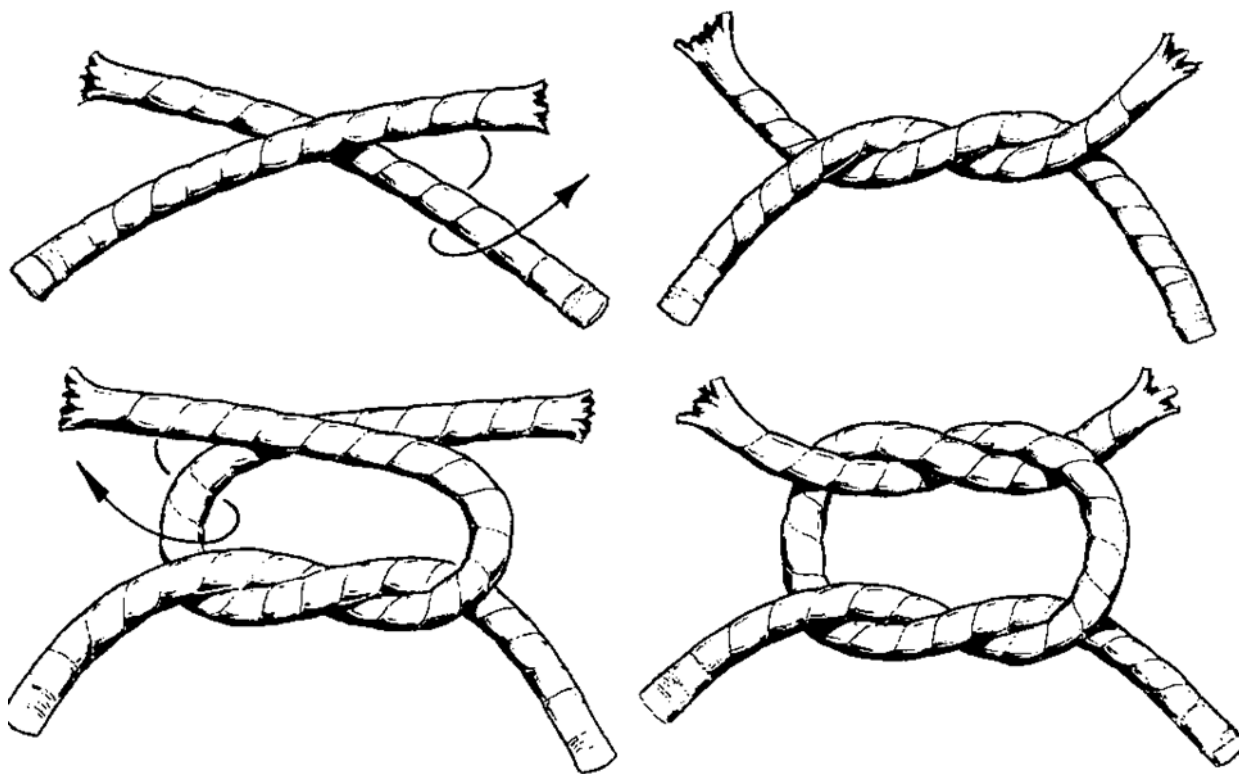


## FOR VELCRO TIES

1. Insert the velcro tag through the flange that is furthest away from the tape changer and secure in place.
2. Repeat on the other flange hole.
3. Secure the tracheostomy tube by attaching the velcro tie comfortably around the neck,
4. Check tape tension by slipping one finger comfortably between the ties and the patient's neck
5. If the ties are too tight or loose, readjust tension and resecure.
6. Assitant may release tube ONLY when instructed to do so.
7. Ensure paitent is comfortable and discard used equipment.
8. Perform hand hygiene.
9. Record the tape change in the patient's notes.

**Note:**

*Knots directly over the spine can cause tissue breakdown.*



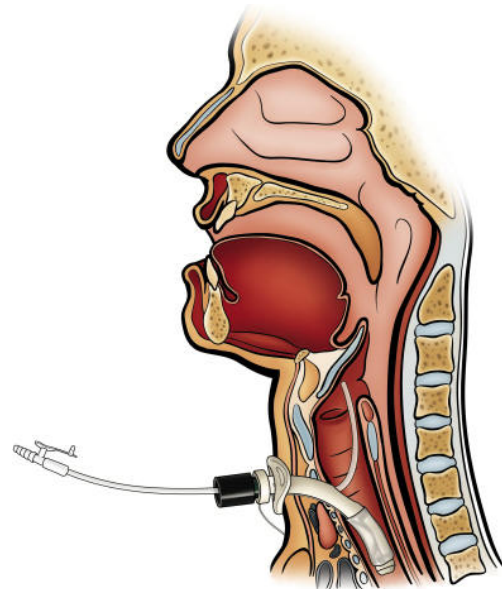
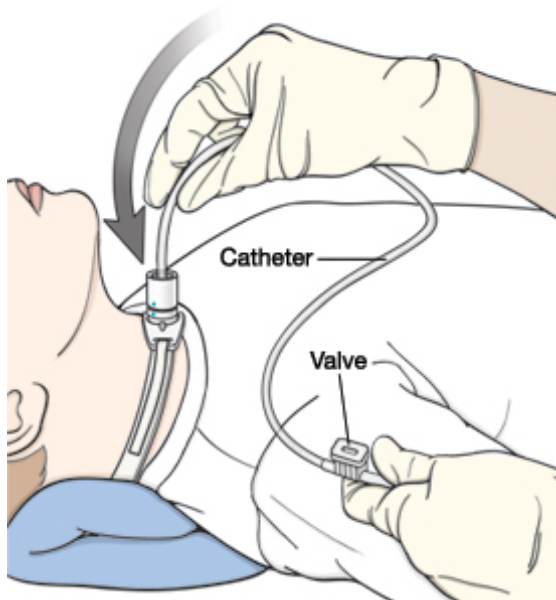
Reef Knot

### 3.14 TRACHEAL SUCTIONING

*The frequency of suction required will depend upon the individual patient's need and should not be considered a routine practice. Patients should only be suctioned when they are unable to effectively clear their airway.*

1. Choose the right size suction catheter – the external diameter of the suction catheter should not be greater than half of the internal diameter of the tracheostomy tube. A rough guide to choosing the correct size of catheter is:  
  
(size of endotracheal or tracheostomy tube – 2) x 2 = correct Fr gauze.
2. Explain the procedure to gain consent and cooperation from the patient.
3. Perform hand hygiene.
4. Wear protective equipment, including gloves, apron and goggles. In the case of patients being cared for having a communicable disease, specialist masks will be required. Advice can be sought from the infection Prevention & Control Team.
5. Turn on the suction apparatus and test the suction pressure (maximum 20kPa/150mmHg in adults – limiting the negative pressure will help to reduce the risk of mucosal damage, hypoxia and atelectasis).
6. Open the suction control end of the suction catheter but leave it in its package.
7. Attach to the end to the suction tubing, ensuring a good fit so that suction pressure is not lost.
8. With your non-dominant hand, remove any devices from the tracheostomy such as speaking valves and humidifying oxygen apparatus.
9. With the same hand, pick up the suction tubing and carefully pull out the suction catheter out of the packet.
10. Do not allow the distal end of the suction catheter to touch anything.
11. The catheter should be introduced gently to a depth one-third of its length (approximately 15cm) or until the patient coughs or resistance is met indicating the bifurcation of the trachea. As mucosal trauma can be caused simply by catheter contact during insertion, suction must be off during insertion. If resistance is met, the catheter should be withdrawn approximately 1cm before suction is applied.
12. Suction should be continuous and last for a maximum of 10-15 seconds.
13. The catheter should be steadily withdrawn to allow most effective clearance of secretions.
14. When the catheter is completely removed, release suction, wrap the catheter around dominant hand, enclose in the glove and discard.

15. Repeat as necessary using a new catheter.
16. Ensure patient is comfortable and breathing is in the normal rate. If patient is on oxygen, reapply oxygen within 10 seconds.
17. Water should be aspirated through the suction tubing. The tubing of single patient use must be changed at a maximum frequency of 5 days
18. Disposable suction liners should be emptied daily irrespective of the amount of aspirate. It should never be filled to greater than 2/3 full. They must be sealed securely and disposed of as clinical waste.
19. Document that suctioning has been done and note the amount and appearance of the secretions.



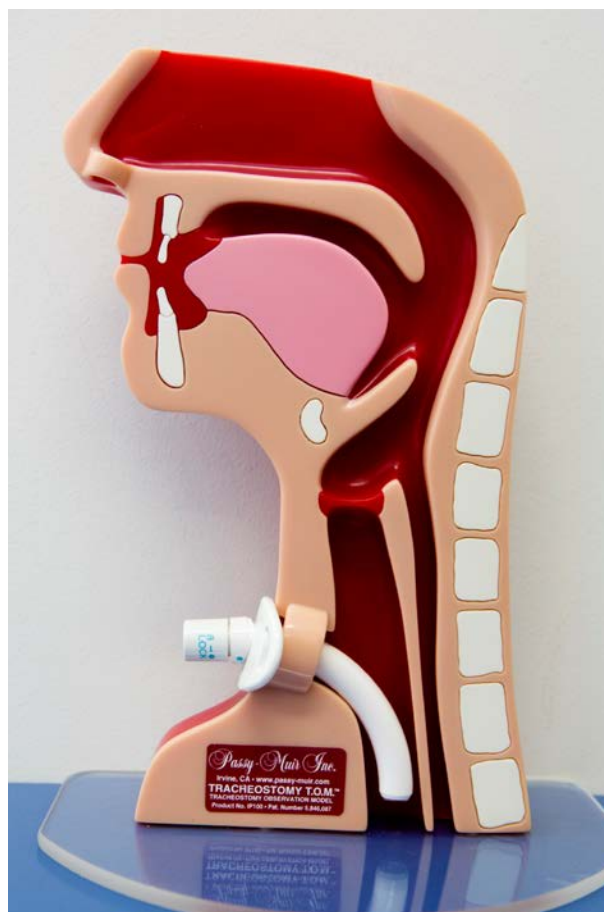
**Note:**

- *The number of suction passes should be limited to 3 during each episode to minimise the potential complications associated with suction.*
- *If the tracheostomy tube is fenestrated, the clinician must ensure that the unfenestrated inner cannula is in position before proceeding. Suction should not be performed when a fenestrated cannula is present, as this may allow the catheter to pass out of the fenestration leading to possible damage to the posterior tracheal wall*

### 3.15 CARE OF THE INNER CANNULA (TUBE)

*It is recommended that all adult patients with a tracheostomy should have a tube system with an inner cannula, unless contraindicated. The inner cannula can be cleaned and replaced. The central rationale for cleaning of inner tube is to mechanically remove debris which may physically obstruct a patients' airway. The inner tube should be checked every 4 hours to ensure patency.*

1. Explain procedure to gain consent and co-operation.
2. Clean hands and apply appropriate PPEs
3. Perform tracheal suction if necessary.
4. Hold the tracheostomy in place with one hand and remove inner tube with the other hand. This should be done with minimal movement of the tube.
5. If the inner tube is clean and clear of secretions, simply reinsert. If inner tube requires cleaning, this inner tube should be cleaned with warm soapy water, rinsed, dried and reinserted. (Always refer to instructions provided by the manufacturer).
6. Ensure that the inner tube is locked into place to prevent the tube dislodging.



### 3.16 INFLATING THE TRACHEOSTOMY CUFF

*Two techniques are recommended when inflating the cuff to provide an adequate seal to allow positive pressure ventilation and/or protection from aspiration.*

1. Explain procedure to patient and obtain consent.
2. Perform hand hygiene, wear goggles, gloves and apron.
3. Auscultate with a stethoscope the trachea above the level of the tracheostomy tube.
4. Inflate the cuff using a 10 ml syringe, inflating gradually in 0.5 ml increments.
5. The cuff is then inflated until either: minimal leak technique – inserts the smallest volume of air that allows a small leak on inspiration, or minimal occlusive volume – inserts the smallest amount of air that prevents air leak on inspiration
6. Assess cuff pressure using a manometer. (25 cm H<sub>2</sub>O).



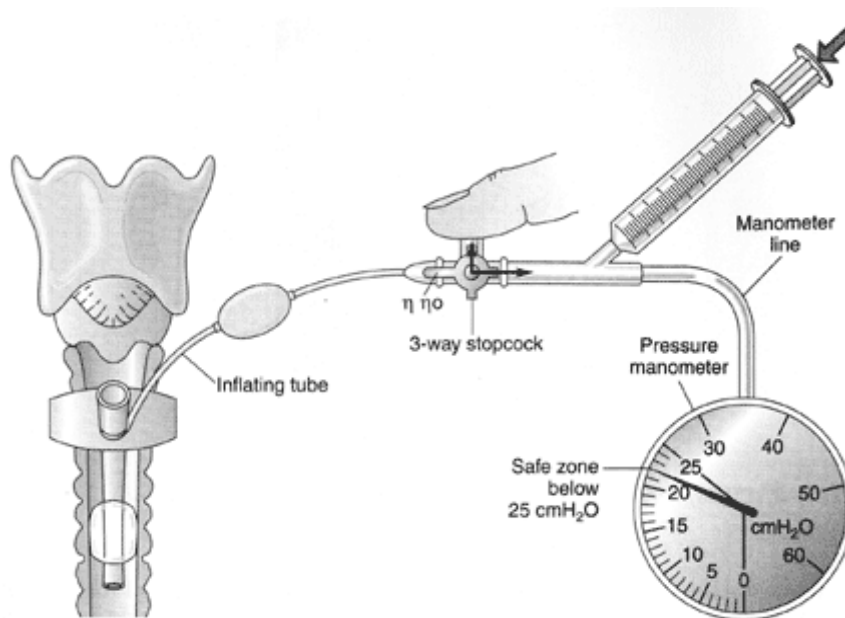
Checking cuff pressure using a manometer

### 3.17 DEFLATING THE TRACHEOSTOMY CUFF

1. Explain procedure to patient and obtain consent.
2. Turn off naso gastric or gastrostomy tube feeding if in situ – 1 hour prior to cuff deflation.
3. Ask/assist patient to sit in upright position.
4. Perform hand hygiene, wear goggles, gloves and apron.
5. Prior to cuff deflation, suction briefly with a suction catheter in the oropharynx.
6. Continue oxygen flow via tracheostomy mask or T piece during procedure.
7. Perform synchronised suction/cuff deflation technique as follows:
  - a. Insert a sterile suction catheter into the tracheostomy tube approximately 0.5cm longer than the tracheostomy tube tip (see suction guideline).
  - b. Simultaneously the second healthcare professional should remove air in 0.5 ml increments from the tracheostomy cuff until fully deflated using a 10 ml syringe. The whole procedure should not take longer than 15 seconds and the patient should be encouraged to cough.
  - c. Observe patient for signs of respiratory distress.
  - d. Observe patient's ability to manage oral secretions.

### 3.18 CHECKING CUFF PRESSURE

The manometer should only be used to measure cuff pressure, not to inflate or deflate the cuff. It is recommended that cuff pressure should be measured every shift by using a hand pressure manometer and recorded in nursing notes. This will indicate the pressure exerted by the cuff on the tracheal wall. The cuff inflation pressure should range from 15-30cm H<sub>2</sub>O.



### 3.19 INSERTION AND MANAGEMENT OF A CHEST DRAIN

1. Explain procedure to gain consent and co-operation
2. Explain subsequent limitations to mobility
3. Explain the importance of not raising the bottle higher than the patient's chest.
4. Ensure privacy and dignity throughout.
5. Administer sedative or analgesic, when prescribed, 20 minutes prior to procedure.
6. Maintain principles of asepsis, assemble the drainage equipment and add the water.
7. Make sure that the chest drain tubing is 4-5 cm below the water level.
8. Open the sterile pack and add the sterile gloves, syringe, scalpel and suture material.
9. Pour the antiseptic skin cleansing solution into a gallipot / sterile container.
10. When requested by doctor, open packaging of chest drain and introducer/trochar.
11. Observe patient for distress or discomfort.
12. When the chest drain is inserted, it should be immediately attached to drainage bottle
13. The tubing should be clamped to prevent further lung collapse prior to attachment to the drainage bottle.
14. A purse string is sutured by the doctor.
15. Remove the clamp.
16. The drainage bottle should always be kept below the level of patient's chest to prevent siphoning of fluid into the pleural space.
17. The drain should be covered and secured with a dry dressing.
18. Check that the drainage system is functioning by observing for the swinging movement of water in the drain tube as the patient breathes.
19. There should be bubbling in the water during expiration in the case of pneumothorax and drainage of blood into the bottle in case of haemothorax.
20. If low pressure suction is indicated, the suction tubing should be attached to the short tube in the bottle, the one that does not touch the water.
21. Encourage patient to mobilise and sit up.
22. Encourage deep breathing exercises and coughing to promote pleural drainage.

**Note:**

- *Chest drain tubes should only be clamped if accidental disconnection occurs or when bottles are being changed.*
- *The end of the long tube should be underwater and touch the bottom of the bottle, but should not more than 4-5 cm beneath the level of water, as it may make expansion of the lung more difficult.*
- *A chest x-ray is required post insertion to confirm position of chest drain.*

### 3.20 CHEST DRAIN REMOVAL

1. Explain procedure to gain consent and co-operation
2. Assist patient to adapt to upright position.
3. Adjust the bed to an appropriate height.
4. Apply hand hygiene.
5. Maintaining the principles of asepsis, open the dressing pack and pour the cleansing solution into the gallipot.
6. Open the stitch cutter and dressing into the sterile field.
7. Loosen the dressing around the chest drain but do not remove.
8. Using the waste disposal bag as a glove, remove the dressing.
9. Put on the gloves and clean around the drain site.
10. Clamp the tubing of the drain to release vacuum and prevent suction during the removal of the drain which may cause tissue damage and/or pain.
11. Cut the knot at the loose end of the purse string suture so that the ends are free
12. Cut and remove the suture holding the drain in place.
13. Instruct the patient to take two breaths in and out and then a deep breath in and hold it
14. When the patient is holding the breath, remove the drain quickly and smoothly.
15. Pull the purse string suture tight and tie it with double knot.
16. On completion, ask patient to breath normally.
17. Cover with a dry dressing.
18. Discard chest drain tubing in clinical waste.
19. Record chest drain removal and record amount of final fluid drainage.

**Note:**

- *Suction should be disconnected prior to chest drain removal.*
- *The purse string suture usually can be removed after 5 days.*
- *The above procedure is usually carried out by a doctor, however a trained qualified nurse who has been instructed and supervised in the removal of intrapleural drains can perform the procedure.*
- *One has to ascertain that a functional oxygen and suction supply are accessible.*

### 3.21 CHANGING THE DRESSING AROUND THE DRAIN SITE

1. Explain and discuss the procedure with the patient.
2. Perform procedure using aseptic technique.
3. Clean the surrounding skin with an appropriate sterile solution such as 0.9% sodium chloride.
4. Check condition of surrounding skin.
5. Ensure that the skin suture holding the drain site in position is intact.
6. Cover the drain site with a non-adherent absorbent dressing.
7. Secure well using tape.
8. Ensure that the drain is functioning well.

### 3.22 CHANGING THE VACUUM BOTTLE

1. Inform the patient regarding the procedure.
2. Perform hand hygiene.
3. Apply non sterile gloves and apron.
4. Close the clamp below the luer lock connector on the used bottle
5. Take the new bottle out of the packaging. Ensure that the vacuum indicator is depressed to the maximum line.
6. Unlock luer lock connection of the tubing and lock new bottle into position.
7. Open both clamps (on bottle and on tubing) to re-establish the vacuum drainage system.
8. Measure the drainage fluid in the used redivac bottle at eye level.
9. Dispose of used bottle into yellow waste bag.
10. Remove protective wear and discard them in the dirty utility room.
11. Perform hand hygiene.
12. Document actions of fluid balance charts and record that the drainage bottle has been changed in the nursing records.

### 3.23 TRANSPORT OF A PATIENT WITH CHEST DRAIN HAVING AN UNDERWATER SEAL BOTTLE (WOLFE'S BOTTLE)

1. Explain the procedure to the patient to gain consent and cooperation.
2. Disconnect the suction and leave open to air.
3. Do not clamp the chest drain.
4. Ensure that during ambulation and transport, the glass bottle is kept below the patient's chest level.
5. Ensure that during ambulation and transport, the glass bottle is held securely to avoid breakage.
6. Observe for any bubbling and/or loss of tidaling (swinging) in the underwater seal drain during transportation to ascertain that tube remained in position, is not kinked or blocked.
7. Carry a non toothed clamp during transport in case of emergency.

**Note:**

- Clamping a chest drain tube can increase the risk of a tension pneumothorax.
- Clamping is indicated only in certain circumstances:-
  - Changing of bottle and tubing;
  - Damage/breakage of bottles;
  - Locating a leak in the drainage system;
  - Controlling drainage of a large pleural effusion;
  - In the event of a chest tube being disconnected
- **It is the duty of a qualified nurse to transport a patient with a chest drain**

### 3.24 FLUSHING OF SMALL BORE CHEST DRAINS

**It is imperative that flushing of chest drains must be carried out by appropriately trained health care professionals.**

1. Perform hand hygiene using 70% alcohol.
2. Maintain strict aseptic technique at all times.
3. Maintain patient dignity and comfort throughout the procedure.
4. Open sterile pack, assemble equipment and put on sterile gloves.
5. Cleanse the chest drain 3- way-tap with 2% chlorohexidine in 70% alcohol.
6. Draw up the 20mls of 0.9% Normal Saline.
7. Turn tap **OFF** to patient and then connect syringe. Close tap to bottle, then flush slowly with 10mls of 0.9% Normal Saline into thorax and then 10mls of 0.9% normal saline into under water seal taking care not to exert any undue pressure.
8. Turn tap off and remove syringe. Replace a new cap on the 3- way-tap.
9. Open tap for free drainage and ask patient to cough or take a deep breath.
10. Observe drain bottle or tubing for any evidence of bubbling/swinging.

**4.1 COLLECTION OF BLOOD PRODUCTS & BLOOD COMPONENTS FROM HOSPITAL BLOOD BANK**

1. The blood unit should not be collected from the Hospital Blood Bank (HBB) until the patient is ready to be transfused.
2. There is appropriate and patent intravenous access.
3. The patient's baseline observations have been performed and recorded.
4. The unit of blood should be collected in the specified blood transport boxes designated for such purpose. When collecting red blood cells and plasma, ensure the transport boxes contains the ice pack and separator (depending on transport box model). In case of platelets, no ice pack is required.
5. The integrity and expiry date of the blood bag should be checked.
6. Before leaving the HBB, the health care professional collecting the blood product, must confirm that the right blood is being collected. This is carried out by checking the patients' details on the blood compatibility label attached to the blood product against the patient's details on the Request Form and Transfusion Receipt. The donation number on the NBTS label should also be checked against the donation number on the compatibility label. The health care professional must write in full their name, surname and sign on the Blood Collection Sheet before leaving the blood bank.
7. Once the blood component is collected, it should be safely delivered in an appropriate transport box without delay to the ward and handed over to the respective responsible health care professional, who should check that the correct blood has been delivered together with the appropriate documentation.
8. Appropriate transport and storage of blood components until time of use is essential, otherwise the component safety and characteristics are compromised.

**Red cell concentrates** – should be maintained at a temperature between 2-6°C. The unit should be returned back to the HBB if it is left for more than 4 hours in the appropriate blood transport boxes or has been removed from the blood bank refrigerator for more than 30 minutes. This is done to minimise the risk of bacterial growth.

**Platelets** – should be maintained at a temperature between 20 - 24°C and transfused immediately. This component should not be stored outside the HBB. Platelets should NOT be transported with an ice pack.

**Thawed Fresh Frozen Plasma (FFP)** – once thawed FFP should be maintained at a temperature between 2-6°C and transfused within 6 hours of thawing.

- The transfusion of these components should be commenced as soon as possible following issue from the HBB. These products must not be stored outside the laboratory.
- If the above conditions are not adhered to, the blood component should be returned to the HBB with the relevant traceability forms.
- All the blood component bags that are not transfused must be sent back to the HBB.

#### 4.2 DISTRIBUTION OF BLOOD TRANSFUSION INFORMATION LEAFLET

A blood transfusion leaflet should be given by the nurse/doctor to the patient or relatives.

#### 4.3 PRE – TRANSFUSION IDENTIFICATION – POSITIVELY IDENTIFY THE PATIENT.

**It is vital that CORRECT blood is administered to CORRECT patient.**

Blood must be checked by two nurses before the transfusion, always next to patient bedside.

1. Positively identify the patient by asking the patient's surname, first name, date of birth, hospital number/ID number on:
  - a. Identification bracelet
  - b. Blood transfusion request form
  - c. Compatibility label on the blood bag
2. The donation number on the NBTS label must be identical to the unit number written on the compatibility label.
3. In the case of patients who are unable to identify themselves, such as patients who are confused, unconscious or under general anaesthesia, children or patients where there is a language barrier, verification of the patient's identity should be sought from the identity bracelet if it is already in place. Otherwise if this is not possible, identification should be sought from a parent, relative or carer (if present), other staff members, or from an identity document.
4. Check compliance with any special requirements i.e. CMV negative or irradiated components

#### 4.4 BLOOD BAG

1. Check the blood group and unit number on:
  - a. Blood transfusion request form
  - b. Compatibility label on the blood bag
  - c. NBTS label
2. The blood group printed on both labels of the blood bag should be identical
3. The Blood Group written on the blood bag and the request form should match.
4. Inspection of the blood components prior to administration should include checking:
  - a. The expiry date
  - b. The integrity of the packs for any leaks
  - c. The content for unusual discolouration or haemolysis
  - d. Platelet packs to ensure that they do not show clumps or appear unusually cloudy.
5. Record the unit number of the blood on:
  - a. Nurses Record-Blood Products Transfusion Form
6. Date, time and signature of both nurses on:
  - a. Nurses Record-Blood Products Transfusion Form
7. Record the unit number of blood, date, time and signatures of the two nurses administering the blood on the request form (if preferred) as addition to the recordings on the Nurses Record-Blood Products Transfusion Form.
8. This should be repeated for every unit.
9. Record the unit number of blood, date, time and signatures of the two nurses administering the blood on the Fluid Balance Chart if patient is on intake-output charting.

#### 4.5 ADMINISTRATION SET

1. A blood administration set containing an integral filter (170-200  $\mu\text{m}$  pore size) must be used for all the blood products.
2. The blood administration set should only be primed with the blood component or 0.9% normal saline, fully wetting the filter.
3. **DO NOT** flush blood administration line after blood transfusion is finished.

#### 4.6 CARE AND MANAGEMENT DURING A BLOOD TRANSFUSION

1. Explain the procedure to gain consent and co-operation
2. Record baseline observations of temperature, pulse, respiration and blood pressure (on Nurses Record-Blood Products Transfusion Form) :
  - a. Prior to transfusion (as baseline). These should be taken and recorded no more than 60 minutes before the start of the component transfusion.
  - b. 15 minutes through transfusion
  - c. At the end of transfusion
  - d. Additionally, if the patient's clinical status requires.
3. Vital signs related to transfusion should be recorded separately from routine observations.
4. Monitoring should be continued regularly during the procedure
5. Monitor urine output during the procedure (if required)
6. Inform the patient about possible adverse effects and about the importance to report any symptoms to the nurse including but not limited to:
  - a. Facial flushing
  - b. A rash
  - c. Pulse and respiration rates
  - d. Headaches
  - e. Feeling hot and flushed
  - f. Chest or abdominal pain
  - g. Lumbar pain, loin pain or pain at transfusion site
  - h. Oedema of the face or eyes
  - i. Dyspnea
  - j. Rigors
  - k. Hypotension
7. The transfusion should be stopped if a severe transfusion reaction is suspected.
8. If there is a rise in temperature of less than 1.5 °C from baseline or a mild allergic reaction, the transfusion can be stopped, patient given appropriate medication and if symptoms subside the transfusion can continue.
9. However, if the reaction is more severe, transfusion should be stopped immediately.

*Note:*

- *A blood administration set must be used for all blood transfusions (including platelets and plasma). This has an additional chamber above the drip chamber which contains a filter that removes clots and aggregates.*
- *Each unit of blood should be regarded as a new transfusion.*
- *For routine administration a red cell unit could be transfused over 90-120 minutes per unit. Transfusion time should not exceed four hours. The administration set should be changed after 2 units of blood have been transfused through it.*
- *Platelets should be administered rapidly over 20-30 minutes as soon as they are available. Platelets should not be transfused through administration sets which have already been used to administer other blood components.*
- *Plasma should be administered over approximately 30 minutes per unit. Transfusion time should not exceed four hours. Typical infusion rate 10-20ml/kg/hr. The administration set should not be left for more than 12 hours.*
- *When rapid transfusion is necessary blood may be warmed during administration using an approved, specifically designed and regularly maintained blood warmer.*
- *The blood transfusion compatibility request must be available during the transfusion.*
- *No drugs or any other products should be added to the blood bag under any circumstances.*



## Nurses Records – Blood Product Transfusion

### Patient Details

ID Card Number							
Patient's Name							
Ward							
Date of Birth	DAY	MONTH	YEAR				
Sex	Male [ ]			Female [ ]			

PAT1026v01.0

Please turn over and fill in the data requested appropriately.

## Nurses Records - Blood Component Transfusion

Please complete the form appropriately.

Has the patient and/or a family member been given a blood transfusion information leaflet? Yes  No

<b>Unit Number :</b> _____		Date: _____	Time started: _____	Time finished: _____	
Red Cells <input type="checkbox"/>		Platelets <input type="checkbox"/>	Plasma <input type="checkbox"/>	Cryoprecipitate <input type="checkbox"/>	
<i>Identity Band on patient: Yes <input type="checkbox"/> No <input type="checkbox"/> If no, do not proceed with transfusion until identity band is put in place.</i>					
<b>Identification and inspection of unit done? If yes (signature of):</b> Nurse One _____ Nurse Two _____					
	<b>Temperature</b>	<b>Pulse</b>	<b>Blood Pressure</b>	<b>Respiration Rate</b>	<i>Signature of Nurse</i>
<i>Pre- Transfusion</i>					
<i>15 min into Transfusion</i>					
<i>Post Transfusion</i>					

<b>Unit Number :</b> _____		Date: _____	Time started: _____	Time finished: _____	
Red Cells <input type="checkbox"/>		Platelets <input type="checkbox"/>	Plasma <input type="checkbox"/>	Cryoprecipitate <input type="checkbox"/>	
<i>Identity Band on patient: Yes <input type="checkbox"/> No <input type="checkbox"/> If no, do not proceed with transfusion until identity band is put in place.</i>					
<b>Identification and inspection of unit done? If yes (signature of):</b> Nurse One _____ Nurse Two _____					
	<b>Temperature</b>	<b>Pulse</b>	<b>Blood Pressure</b>	<b>Respiration Rate</b>	<i>Signature of Nurse</i>
<i>Pre- Transfusion</i>					
<i>15 min into Transfusion</i>					
<i>Post Transfusion</i>					

<b>Unit Number :</b> _____		Date: _____	Time started: _____	Time finished: _____	
Red Cells <input type="checkbox"/>		Platelets <input type="checkbox"/>	Plasma <input type="checkbox"/>	Cryoprecipitate <input type="checkbox"/>	
<i>Identity Band on patient: Yes <input type="checkbox"/> No <input type="checkbox"/> If no, do not proceed with transfusion until identity band is put in place.</i>					
<b>Identification and inspection of unit done? If yes (signature of):</b> Nurse One _____ Nurse Two _____					
	<b>Temperature</b>	<b>Pulse</b>	<b>Blood Pressure</b>	<b>Respiration Rate</b>	<i>Signature of Nurse</i>
<i>Pre- Transfusion</i>					
<i>15 min into Transfusion</i>					
<i>Post Transfusion</i>					

Please complete the 'Acute Adverse Effects of Blood Transfusion Form' if the patient experiences any signs/ symptoms of a transfusion reaction.

#### 4.7 END OF BLOOD TRANSFUSION

1. Wear gloves to remove empty blood bag and giving set.
2. Change giving set if infusion is to be continued.
3. Flush the cannula.
4. Ensure all observations are documented appropriately.
5. Ensure that traceability form is filled out appropriately and sent to the H.B.B.
6. The health care professional shall ensure that all transfusion documentation is complete at every stage of the transfusion process.
7. Remove and dispose of the blood bag together with the blood transfusion set in the yellow bag according to local infection control and waste management procedures.

#### 4.8 TRACEABILITY

- a. It is the responsibility of the health care professional administering the transfusion to ensure that the traceability form is filled out appropriately and sent to the HBB.
- b. The traceability form is to be filled in for any blood component collected from the HBB, irrespective whether it has been transfused, punctured or returned unused to the HBB.

## 4.9 TRANSFUSION REACTION

If an untoward event (including suspected adverse reaction) occurs, the patient should be managed appropriately according to the clinical situation.

1. Stop/Pause transfusion immediately.
2. Report event to the nurse in charge, medical officer and the HBB.
3. Maintain venous access using normal saline running slowly to keep the vein open.
4. Re-check blood component labelling corresponds with the blood transfusion form and patient identification.
5. Carry out observation at regular intervals.
6. Record the volume and colour of the urine passed.
7. Document all observations on the patient's observation chart and nursing report. These should include:
  - a. Time of reaction
  - b. Signs and symptoms
  - c. Name of physician informed
  - d. Notification of blood bank department, specimens and forms
  - e. Treatment administered and patient's response

**The appropriate samples, blood bag and duly filled out adverse reaction reporting form (National Blood Serious Adverse Reaction (SAR) Report Form) should be promptly sent to the HBB. Patient events and/or reactions occurring during or after transfusion must be reported to the HBB for further investigations.**

## 5.1 OBSERVATION OF FAECES

*A normal stool is brown, soft and formed and has an odour.*

The following should be observed:

- Amount**            Particularly if diarrhoea is present, as patients may lose a lot of fluid.
- Frequency**        The 'normal' frequency will vary from patient to patient.
- Consistency**      Soft or hard, formed or liquid, whether it contains mucus (ulcerative colitis or Crohn's disease), whether it is fatty, offensive smelling and floats (as in gall bladder disease), whether parasites are present.
- Colour**            A pale colour suggests the absence of bile pigments. The presence of bright red blood may indicate bleeding from haemorrhoids or rectal bleeding. If the stool appears black and tarry in consistency (melaena), this indicates digested blood from the stomach or small intestine. If the stool is black and hard in consistency, this may be the result of iron medication.
- Pain/discomfort**    Associated with bowel action
- Flatus**            This indicates gut motility and is an important observation following abdominal surgery.

## 5.2 OBTAINING A SPECIMEN OF FAECES

1. Explain the procedure to gain cooperation and consent.
2. Ask/assist the patient to use a commode/bedpan.
3. Use the spatula to remove a small quantity of faeces from the bedpan..
4. Place the faeces and spatula in the container and close the lid.
5. Fill in the details of the patient on the request form.
6. Place in a specimen bag and proceed to laboratory.

**Note:**

*Three specimens are usually needed if testing for occult blood*

### 5.3 ADMINISTRATION OF AN ENEMA

1. Explain procedure to patient to gain consent and cooperation
2. Draw screens to ensure privacy.
3. Assist patient to remove clothing below the waist and lie in the left lateral position.
4. Cover the patient with a blanket.
5. Place an absorbent pad under the buttocks.
6. Remove the end of the enema and lubricate the end of the nozzle.
7. Ask the patient to relax and take deep breaths.
8. With the dominant hand, hold the nozzle of the enema and gently insert it through the anus and into the anal canal.
9. Squeeze the bag until all contents have been deposited.
10. Whilst still squeezing and keeping the bag rolled, gently withdraw the nozzle.
11. Wipe away any residual lubricant and leave the patient dry.
12. If it is an evacuate enema, ask the patient to hold the enema for as long as possible but the effect is likely to be rapid.
13. If it is a retention enema (drug administration) the patient should be instructed to stay in the left lateral position for at least 30 minutes to aid retention and absorption of the fluid.

**Note:**

- *Some enemas need to be warmed prior to administration.*
- *It is necessary for the patient to be in the left lateral position because of the position of the rectum.*
- *Keeping the bag rolled while removing the nozzle on completion of the enema prevents fluid running back into the bag.*

#### 5.4 MONITORING FLUID BALANCE –INTAKE –OUTPUT (I/O)

- Personal protective equipment (P.P.E.) should be worn when handling body fluids.
- All oral, intravenous and naso gastric intake should be recorded on the fluid intake side of the fluid balance chart.
- If continuous bladder irrigation is in progress, this should also be recorded.
- On the output section, record on the urine output, diarrhoea or stoma output, naso gastric aspiration, vomit and output from drains.
- Any other output that can be measured or weighed should be recorded.
- Patients who are independent in meeting their oral need should be asked to note the nature and quantity of their oral fluid intake.
- Similarly, the same applies to the elimination needs.
- A clean measuring jug should be provided to do this.
- Assess individual needs, monitor and record input and output at regular intervals.
- A new chart is needed every 24 hours.
- The fluid I/O for the previous day is totaled and the balance is calculated.
- Close the balance at midnight.

**Note:**

- *If the patient is on a fluid restriction, all oral fluid should be recorded.*
- *If there is more intake than output, the patient is in a positive fluid balance. A positive balance of more than 500mls in 24 hours should be reported.*
- *If there is more output than intake the patient is in a negative balance. A negative balance of more than 500mls in 24 hours should be reported.*
- *If patients are not passing urine, fluid balance is recorded by weighing the patient.*

## 5.5 APPLICATION OF A PENILE SHEATH/CONVENE/CONDOM CATHETER

*Contraindications:* Penile sheaths are contraindicated in men with very small or retracted penises or in those with a high pressures bladder. This is diagnosed by using Urodynamic testing.

1. Explain procedure to gain consent and cooperation.
2. Ensure privacy, dignity and allow time to ask questions.
3. Assist the patient into a supine position with the legs extended.
4. Perform hand hygiene.
5. Prepare materials on a trolley-
  - a. Appropriately sized sheath – use sizing guide
  - b. Fixation device
  - c. Urine bag
  - d. PPE
  - e. Basin with tepid water, soap, facecloth and towel
  - f. Disposable absorbent pad
  - g. Small domestic waste bag
  - h. Hair clipper/scissors
6. Go near the patient and apply alcohol rub.
7. Put apron on.
8. Expose the patient's genitalia.
9. Place a disposable pad underneath the buttocks and thighs.
10. Perform hand hygiene.
11. Put on disposable gloves.
12. Trim any excess hair as needed, especially if using self adhering silicone sheaths.
13. Gently grasp the shaft of the penis, and retract the foreskin when possible.
14. Wash the tip of the penis at the urethral meatus and work outwards.
15. Wash the shaft of the penis in a downward stroke, away from the meatal tip.

16. Repeat till the penis is clean and then dry thoroughly.
17. Ensure the foreskin is returned to its normal position.
18. Grasp the penis along the shaft, firmly but gently.
19. With the other hand, hold the rolled penile sheath and roll it gently onto the penis.
20. Allow some space between the glans penis and the sheath to avoid necrosis of the glans.
21. If available, place an adhesive band ensuring that it is not encircling the penile shaft too tightly.
22. Attach the drainage bag taking care that neither sheath nor tubing are kinked.
23. Dispose of the materials used in a domestic waste bag and seal it before leaving the bedside.
24. Make sure the patient is covered and comfortable and any queries settled before you leave him.
25. Draw the curtains back, dispose of the waste, and wash your hands.
26. Document and include-
  - a. Reason for sheath application
  - b. Date and time of application and change due date
  - c. Size and type of sheath used
  - d. Ease of procedure and any problems encountered
  - e. Patient's response to the procedure and post procedure tolerance
  - f. Information provided and how you dealt with the problems encountered
  - g. Daily review of the need for the sheath
  - h. Any other information you deem necessary

## 5.6 OBSERVATION OF URINE

1. Explain the procedure to patient
2. Ask the patient to provide a sample of urine.
3. Observe the urine for colour, consistency, concentration, smell and presence of particles.

### **Note:**

#### **Colour**

*Light Yellow/Straw* – Normal.

*Dark Yellow* – Concentrated, possibly indicating dehydration.

*Pink/Red* – Presence of blood or excretion of cytotoxic drugs.

*Purple, Green, White* – Might indicate infection.

*Green* – Probably due to Pseudomonas infection or excretion of substances like Methylene Blue or cytotoxic drugs.

Certain drugs or foodstuffs may alter the colour of the urine.

#### **Smell**

*Malodorous /'fishy' smell* - Infection.

*Sweet smell* – Ketones.

Certain foods, like asparagus, onions, and spices, might alter the smell of urine.

#### **Clarity**

*Cloudy* – Infection, stale urine.

*Sediment* – Infection or contamination.

#### **Volume**

*Polyuria* -  $\geq 2500$ -3000mls per 24 hours.

*Oliguria* - <300-350mls per 24 hours.

*Anuria* - <50-100mls per 24 hours.

## 5.7 MIDSTREAM SPECIMEN OF URINE (MSU) – NON-CATHETERISED MALE PATIENT

1. Explain procedure to gain consent and cooperation.
2. Ensure privacy and dignity.
3. Assemble equipment:
  - a. Sterile urine bottles
  - b. Lab request forms duly filled and signed by MO – indicate that sample is 'M.S.U.'
  - c. Small plastic bag per urine sample
4. Instruct / assist the patient to retract the foreskin and clean the skin surrounding the urethral meatus with soap and water, using each gauze swab only once.
5. If assisting the patient, put on personal protective equipment.
6. The cap of the specimen bottle has to be placed inner surface facing upwards to protect its sterility.
7. Ask the patient to commence in a urinal / toilet but to direct the middle part of the stream into the specimen pot.
8. Advise neither to contaminate the outer bottle nor to touch the inside of it.
9. For urinalysis, save at least 10mls of urine. 3-5mls is enough for C+S.
10. Instruct to direct the rest of the urine into the urinal / toilet.
11. Document the date and time of specimen collection in the nursing records.
12. Send the sample immediately to the lab making sure it is closed properly and in a plastic bag per sample.

## 5.8 MIDSTREAM SPECIMEN OF URINE (MSU) – NON-CATHETERISED FEMALE PATIENT

1. Explain procedure to gain consent and cooperation.
2. Ensure privacy and dignity.
3. Assemble equipment:
  - a. Sterile urine bottles
  - b. Lab request forms duly filled and signed by Medical Officer – indicate that sample is 'M.S.U.'
  - c. Small plastic bag per urine sample
4. Instruct / assist the patient to clean the urethral meatus with soap and water, using each gauze swab only once.
5. If assisting the patient, put on personal protective equipment.
6. Ask the patient to hold the labia open throughout the procedure.
7. Swab from top to bottom, starting at the urethral orifice towards the anal region and dry with towels. Never go back towards the urethra with a used swab.
8. The cap of the specimen bottle has to be placed inner surface facing upwards to protect its sterility.
9. Ask the patient to commence in a urinal / toilet / bedpan but to direct the middle part of the stream into the specimen pot.
10. Advise neither to contaminate the outer bottle nor to touch the inside of it.
11. For urinalysis, save at least 10mls of urine. 3-5mls is enough for C+S.
12. Instruct to direct the rest of the urine into the urinal / toilet.
13. Document the date and time of specimen collection in the nursing records.
14. Send the sample immediately to the lab making sure it is closed properly and in a plastic bag per sample.

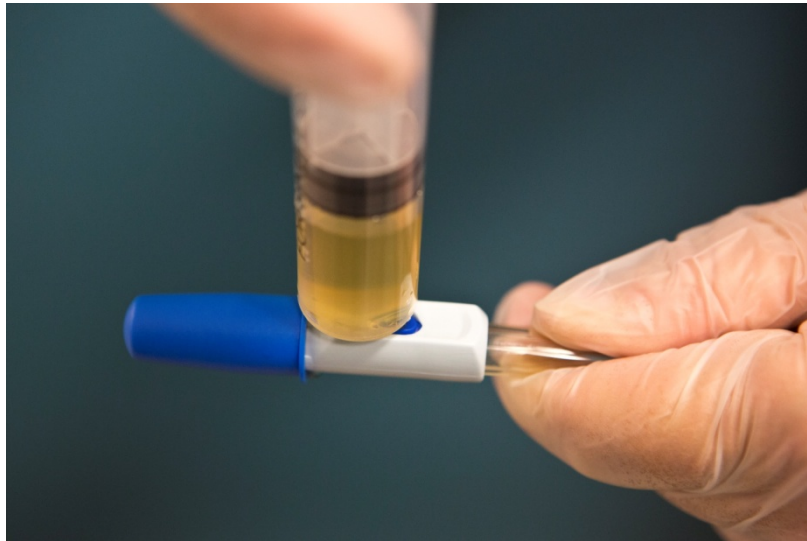
## 5.9 CATHETER SPECIMEN OF URINE (CSU)

1. Explain procedure to gain consent and cooperation.
2. Ensure privacy and dignity.
3. Apply a tube clamp to the tubing of the urine bag, closest to the catheter.
4. Inform the patient that this will stay there for 20-30 minutes to allow urine to collect into the bladder.
5. Gather equipment:
  - a. Personal Protective Equipment
  - b. Alcohol rub
  - c. 70% alcohol impregnated swab
  - d. Sterile specimen bottles
  - e. Lab forms
  - f. A plastic bag per specimen bottle
  - g. A collecting syringe
6. Go near the patient, apply alcohol hand rub, and put on your P.P.E.
7. Clean the sampling port with an alcohol impregnated swab and allow drying.



8. The cap of the specimen bottle has to be placed inner surface facing up to protect its sterility.

9. Holding the tubing firmly but away from the injection port, insert a syringe / needle at 90 degrees into the sampling port and draw the required amount of urine.



10. For urinalysis, draw at least 10mls of urine. 3-5mls is enough for C+S.
11. Dispose of the needle securely. Do not recap it!
12. Without touching the inside of the specimen bottle, transfer the urine into it and replace the lid securely.
13. Make sure you remove the clamp after the sample is saved. Ensure patency.
14. Disinfect your hands and dispose of equipment.
15. Send the specimens to the lab, disinfect your hands, and document accordingly.
16. Make sure that results are followed on iSoft.

## 5.10 24 HOUR URINE COLLECTION

1. Explain procedure to gain consent and cooperation.
2. Ensure privacy and dignity.
3. Check that the lab forms are duly filled in and signed by a Medical Officer.
4. Label the container clearly with the patient's name, surname, ID number and ward.
5. Discard the first urine passed. The 24 hour collection begins at this point.
6. Print the time the 24 hour collection starts on the lab request form.
7. Every time the patient passes urine, it is collected and placed in the container, which is stored in the dirty utility.
8. Use P.P.E. every time you handle urine and / or other body fluids.
9. Advise the patient when the 24 hour period is completed.
10. Most 24 hour samples are submitted to the lab in full. Others will only require a generous sample accompanied by the volume of the total collection on the request form. Check with the lab before discarding the whole collection.

**Note:**

*Should a sample of urine become contaminated or accidentally be discarded, the test must be terminated and restarted.*

## 5.11 URINE SPECIMEN FOR CYTOLOGY

### MALE PATIENT

1. Provide a clear explanation of the collection procedure and the need for three consecutive early morning specimens.
2. If assisting the patient, put on personal protective equipment.
3. Instruct / assist the patient to retract the foreskin
4. Clean the skin surrounding the urethral meatus with soap and water, using each gauze swab only once.
5. Dry well.

### FEMALE PATIENT

1. Provide a clear explanation of the collection procedure and the need for three consecutive early morning specimens.
2. If assisting the patient, put on personal protective equipment.
3. Instruct / assist the patient to clean the urethral meatus with soap and water, using each gauze swab only once.
4. Ask the patient to hold the labia open throughout the procedure.
5. Swab from top to bottom, starting at the urethral orifice towards anal region and dry well with towels. Never go back towards the urethra with a used swab.

### BOTH SEXES

1. Provide a clear explanation of the collection procedure and the need for three consecutive early morning specimens.
2. If assisting the patient, put on personal protective equipment.
3. Ask the patient to collect the first and last part of the stream. The middle of the stream should be passed in toilet / bedpan
4. If the patient is unable to stop and start the stream of urine, empty the bladder into a sterile container and collect a small portion of it into the specimen bottle
5. Document the date and time of specimen collection in the nursing records.
6. Send the sample immediately to the lab making sure it is secured properly and one sample per each plastic bag.
7. Repeat the procedure on the next two consecutive days – hence three days in total.
8. Deal with patient's questions with sensitivity (Patient may be unaware of the possible diagnosis)

#### **Note:**

- *A urine specimen for cytology is requested when a malignancy is suspected.*
- *The first part and end of stream are collected because these are most likely to contain malignant cells if present in the bladder.*

## 5.12 FEMALE CATHETERISATION

1. Explain the procedure to gain consent and co-operation.
2. Check for allergies: Chlorhexidine, Latex, Silicone, Lignocaine, etc.
3. Ensure the patient's dignity and privacy are maintained throughout the procedure.
4. Ask / assist the patient to wash the perineal area and dry thoroughly.
5. Apply alcohol handrub.
6. Check expiry dates whilst preparing the trolley with equipment:
  - a. Personal protective equipment and sterile gloves
  - b. Sterile catheterisation pack
  - c. A urinary catheter of appropriate size
  - d. Chlorhexidine in water 1:2000
  - e. Catheter bag with stand / holder
  - f. Sterile, anaesthetic, lubricant gel (Instillagel) – Unless allergic or pregnant
  - g. 10ml syringe & 10mls of sterile water – Unless a larger infill is ordered
  - h. A disposable absorbent pad
  - i. Alcohol hand rub
  - j. Sharps container
7. Take the prepared trolley to the patient's bedside.
8. Raise the bed to an appropriate height and ensure a proper light source.
9. Apply alcohol hand rub.
10. Ask / assist patient to adopt a supine position with knees flexed and thighs relaxed to externally rotate the hip joints. If this is not possible, leave the legs flat on the bed and ask the patient to spread them as much as possible.
11. Apply alcohol rub.

12. Open the catheterisation pack and other required equipment ensuring that the principles of asepsis are maintained.
13. Open the catheter and drop it into the sterile field.
14. Pour the cleansing agent into a gallipot.
15. Draw the amount of sterile water required to inflate the balloon and have it ready at hand.  
Discard the needle into the sharps container.
16. Open the catheter bag and arrange by the side of the bed. Ensuring that the attachment tip is easily accessible and remains sterile.
17. Remove the bed clothes to expose the genital area.
18. Place the absorbent pad underneath the buttocks.
19. Apply alcohol rub and then put on sterile gloves.
20. Pull off the top of the wrapper and expose the tip of the catheter.
21. Using the non dominant hand, retract the labia by holding gauze swabs, to expose the urethral meatus. This hand will stay here until the end of the procedure.
22. Clean the perineal area with Chlorhexidine in water, using the forceps provided and a new gauze swab for each stroke, top to bottom and discard.
23. Place the dish holding the catheter, on the sterile towel between the patient's legs.
24. Lubricate the catheter tip with a few millilitres of lubricating gel.
25. Insert the rest of the gel into the urethra.
26. Hold the catheter so that the distal end remains in the receiver and gradually advance it out of its wrapper.
27. Locate the urethral orifice, insert the tip of the catheter, lower your hand slightly and advance the catheter into the urethra.
28. Insert 3-5cms or until urine flows out of the catheter end.
29. When urine is noticed, advance the catheter a further 3cms.

30. Insertion should not be forceful. If interference is felt, do not force the catheter.
31. Inflate the balloon with the correct amount of water (5-10mls).
32. Attach the catheter drainage bag. Position it so that there is no pulling on the catheter. Strap or tape the urine bag tubing to the upper thigh for safety.
33. Drag the catheter gently out until the balloon fits snug against the bladder neck.
34. Make sure patient is dry and comfortable.
35. Remove P.P.E. and wash hands.
36. Record the amount of urine in the receiver.
37. Monitor urine output appropriately.
38. Documentation:
  - a. Indications for catheterisation
  - b. Time of insertion
  - c. Size, type, material, batch number of catheter
  - d. Volume of balloon inflill
  - e. Any pain or difficulty on insertion
  - f. Residual urine drained
  - g. Characteristics of urine
  - h. Education provided to the patient.
  - i. Date when change of catheter and urine bag are due

### 5.13 MALE CATHETERISATION

1. Explain the procedure to gain consent and co-operation.
2. Check for allergies: Chlorhexidine, Latex, Silicone, Lignocaine, etc.
3. Ensure the patient's dignity and privacy are maintained throughout the procedure.
4. Ask / assist the patient to wash the perineal area and dry thoroughly.
5. Apply alcohol hand rub.
6. Check expiry dates whilst preparing the trolley with equipment:
  - a. Personal protective equipment and sterile gloves
  - b. Sterile catheterisation pack
  - c. A urinary catheter of appropriate size
  - d. Chlorhexidine in water 1:2000 or Chlorhexidine in Cetrimide, Normal Saline, or Soap and Water
  - e. Catheter bag with stand / holder
  - f. Sterile, anaesthetic, lubricant gel (Instillagel) – Unless allergic
  - g. 10ml syringe & 10mls of sterile water – Unless a larger infill is ordered
  - h. A disposable absorbent pad
  - i. Alcohol hand rub
  - j. Sharps container
7. Take the prepared trolley to the patient's bedside.
8. Raise the bed to an appropriate height and ensure a proper light source.
9. Apply alcohol hand rub.
10. Ask / assist patient to adopt a supine position the legs flat on the bed and spread.
11. Apply alcohol rub.
12. Open the catheterisation pack and other required equipment ensuring that the principles of asepsis are maintained.
13. Open the catheter and drop it into the sterile field.
14. Pour the cleansing agent into a gallipot.
15. Draw the amount of sterile water required to inflate the balloon and have it ready at hand. Discard the needle into the sharps container.
16. Open the catheter bag and arrange by the side of the bed. Ensuring that the attachment tip is easily accessible and remains sterile.
17. Remove the bed clothes to expose the genital area and place the absorbent padding underneath the buttocks.

18. Apply alcohol rub and then put on sterile gloves.
19. Expose the catheter by pulling off the top of the wrapper at the serrated edge.
20. Using sterile swabs expose the glans (if possible) taking care not to contaminate the dominant hand.
21. Use the non-dominant to keep the position of the penis from now till the end of the procedure. Keep penis straight, at 90 degrees perpendicular to the body.
22. Using forceps, cleanse from tip of meatus downwards, underneath the corona, three times.
23. Apply 1ml of local anaesthetic to the glans, obtain a good seal in between syringe and meatus, and push the rest of the gel gently into the urethra.
24. Before removing the syringe, apply pressure below the glans to keep the anaesthetic in situ`.
25. After 2-4 minutes, release slightly. Start inserting the catheter 2-3cms at a time.
26. If you feel resistance at any time:
  - a. STOP
  - b. Pull the catheter back a couple of centimetres
  - c. Apply some tension on the penis and try again, GENTLY
  - d. If you feel resistance again, STOP and seek help
27. Insert until the side arm reaches the glans.
28. Once in and urine starts draining, inflate the balloon and attach the drainage bag.
29. Pull the catheter gently until the balloon is snug into the bladder neck.
30. Replace the prepuce if uncircumcised or if retracted at all.
31. Cleanse any residual anaesthetic, secure the catheter and cover the patient.
32. Remove absorbent pad, discard equipment, remove P.P.E. and decontaminate hands.
33. Lower bed to a safe height.
34. Empty the urine drained, and chart amount.
35. Documentation:
  - a. Indications for catheterisation
  - b. Time of insertion
  - c. Size, type, material, batch number of catheter
  - d. Volume of balloon infill
  - e. Any pain or difficulty on insertion
  - f. Residual urine drained
  - g. Characteristics of urine
  - h. Education provided to the patient
  - i. Date when change of catheter and urine bag are due

## 5.14 CATHETER AND MEATAL CLEANSING

### FEMALE PATIENTS

1. Explain the procedure to gain consent and co-operation.
2. Place the patient in a supine position with knees and hips flexed and slightly apart.
3. Clean the catheter by gently wiping from the vulva towards the urine bag.
4. Clean the vulval area from above and downward using warm soapy water.
5. Rinse the soap well.
6. Cleanse groin as well, leaving the perineal area for the last.
7. Again, rinse well
8. Dry the area by patting with a clean towel.

### MALE PATIENTS

1. Explain the procedure to gain consent and co-operation.
2. Place the patient in a supine position with knees and hips flexed and slightly apart.
3. Retract the foreskin (if possible) before cleansing.
4. Clean the catheter from meatus towards bag with soapy water and rinse well.
5. Clean the penis away from the catheter-meatal junction with soapy water.
6. Rinse well.
7. Cleanse the groin and perineal area with soapy water and rinse well.
8. Dry the area by patting with a clean towel.
9. Replace the foreskin on completion of cleansing.

**Note:**

- *Cleanse and remove secretions and encrustations to prevent infection. Cleansing with soap and water is most effective.*
- *Perineal and meatal hygiene should be performed once daily.*
- *No ointments and powders, to be applied to the catheter-meatus junction.*

## 5.15 EMPTYING A CATHETER BAG

1. Explain the procedure to the patient. It should not cause any inconvenience.
2. Materials needed:
  - a. Personal Protective Equipment (P.P.E.)
  - b. Alcohol pre-pads
  - c. Two pieces of cellulose and a tray
  - d. Clean jug with measure on the side
3. Apply hand rub and put on P.P.E..
4. Cleanse the drainage port with an alcohol pad and allow to dry.
5. Make sure that the drainage port does not touch the sides of the receiving jug.
6. Allow free drainage. When empty, close the port.
7. Wipe the port again with alcohol swab.
8. Reposition the catheter bag and make sure that the port will not touch the floor.
9. Cover the jug / container and go to the dirty utility / toilet
10. Measure the amount of urine at eye level.
11. Notice the characteristics of the urine.
12. Discard urine, remove P.P.E., and disinfect hands.
13. Document the amount drained and note the intake / output pattern.

## 5.16 CONTINUOUS BLADDER IRRIGATION (WARD BASED) - CBI

1. Explain the procedure to gain consent and co-operation.
2. Screen the bed and assist the patient in a comfortable position.
3. If not in situ already, the patient will need a three way urethral catheter.
4. Apply an absorbent, disposable pad underneath catheter and buttocks.
5. Apply alcohol hand rub.
6. Equipment needed:
  - a. Irrigation solution bag / s (0.9% NaCl) 3ltr – unless an alternative is prescribed.
  - b. Disposable irrigation set (tubing)
  - c. P.P.E.
  - d. Sterile dressing pack
  - e. Clamp
  - f. Antiseptic solution
  - g. Alcohol hand rub
  - h. Infusion stand / pole
  - i. Urine jug
  - j. Absorbent pad / sheet
7. Perform this procedure aseptically.
8. Apply alcohol hand rub.
9. Open the dressing tray on the top shelf of the trolley. Pour antiseptic solution.
10. Open the irrigation fluid bag / s and hang them on the stand.
11. If an additive is to be added to the irrigate solution, do it now. Use the same technique as when adding a drug to an IV solution.
12. Make sure that the bag is labeled clearly with a yellow sticker for infusion and that it shows clearly that it is to be used only for bladder irrigation purposes.

13. Maintaining asepsis, attach and prime the irrigation set and expel all the air.
14. Close the flow control clamp of the irrigation set.
15. Ask / assist the patient to expose the catheter and catheter drainage tube.
16. Apply alcohol hand rub.
17. Clamp the catheter gently using a non toothed clamp.
18. Put on the sterile gloves.
19. Place a sterile towel underneath the irrigation inlet of the catheter.
20. Remove and discard the spigot from the irrigation port on the catheter. Throw away both spigot and sterile gloves.
21. Apply new sterile gloves and using swabs, clean around the irrigation port with the antiseptic solution, using one swab only once and wiping in one direction only.
22. Maintaining a non-touch aseptic technique, attach the irrigation set to the irrigation port but do not open the flow control clamp.
23. Release the clamp on the catheter and allow accumulated urine to drain.
24. Empty the contents of the catheter bag into the jug.
25. Discard gloves and apply alcohol rub.
26. Open the flow control clamp and set irrigation at the prescribed rate ensuring that fluid / urine is draining freely into the catheter bag.
27. Rate of 0.9% sodium chloride irrigation is usually set at 3lts of irrigate over 8 hours unless stated otherwise. This will vary according to the need.
28. When strict intake / output is required, an infusion pump with an IV set and an adaptor to connect the luer lock to the catheter can be used for accuracy.
29. Clear up all the equipment used.
30. Advise the patient to report any bladder distension, pain or discomfort.

31. Record the time of commencement, the volume of irrigation fluid set up, and the rate at which it is being infused on the fluid balance chart.
32. Check the volume in the catheter drainage bag frequently for the first 24 hours, empty as necessary and record on the fluid balance chart.
33. Careful monitoring of a patient with CBI is important for prompt identification of problems.
34. The procedure is to be recorded on the nursing report as well.

**Note:**

- *Three litre bags of irrigation solution are preferable, as they require less frequent changing and interruption of a closed system.*
- *If a patient is passing haematuria, the rate of infusion will vary according to the degree of haematuria. The aim is to obtain drainage fluid that is rose in colour. This will prevent blockage.*
- *If clot retention is suspected, stop C.B.I. immediately and perform bladder washout.*
- *When one decreases the volume of irrigation used from the volume of urine/irrigate drained from the bag, the difference results in the amount of urine output.*

## 5.17 BLADDER WASHOUT – INTERMITTENT MANUAL IRRIGATION

1. Consider the need for manual bladder washout when:
  - a. No urine flow is noted and no kinks in the tubing are present
  - b. Patient complaints of suprapubic pain, eventually becoming more pronounced
  - c. Urine tracking around the catheter (leaks)
  - d. Vaso-vagal symptoms – sweating, tachycardia, hypotension
  - e. A mixture of the above.
2. Explain the procedure to gain consent and co-operation.
3. Take the trolley to the patient's bedside and position it on the side of the bed according to your dominant hand.
4. Equipment needed:
  - a. Sterile irrigation / catheterisation / dressing pack
  - b. Catheter tip 50ml syringe
  - c. Alcohol wipes
  - d. Absorbent pad / sheet
  - e. Urine drainage jug
  - f. Sterile, 0.9%NaCl for irrigation bottles – 2-3 might be needed
  - g. A new urine drainage bag
  - h. P.P.E. – consider goggles since splash injury can occur
5. Apply alcohol hand rub.
6. Place absorbent pad underneath the patient's buttocks / catheter.
7. Apply alcohol hand rub.
8. Put on P.P.E.
9. Maintaining asepsis open the sterile dressing pack and additional equipment including the bladder syringe and sterile bowls.
10. Pour 0.9% sodium chloride for irrigation into the gallipot.
11. Open the catheter drainage bag and place it in an accessible position, leaving the cover on the catheter connector to maintain sterility.

12. Apply alcohol hand-rub and put on the sterile gloves.
13. Draw up 30 - 50mls of 0.9% sodium chloride into the syringe and expel the air.
14. Place the sterile towel between the patient's legs, crating a sterile field.
15. Clean the catheter / drainage bag connection.
16. Place one receiver / kidney dish on the sterile towel.
17. Cover both the catheter and the drainage tube with sterile gauze and touching the gauze only; disconnect the catheter from the tubing.
18. Place the end of the catheter in the sterile receiver.
19. Discard the urine bag making sure not to spill any urine in doing so.
20. Connect the bladder syringe to the catheter and gently instill the solution into the bladder. Forceful instillation results in reflux and possibly damage to the kidneys.
21. Remove the syringe and allow the solution to drain out naturally into the second sterile receiver.
22. If the solution does not drain, aspirate gently using the bladder syringe. Empty the syringe in the kidney dish or in the clean jug on the bottom of the trolley.
23. Repeat the process until the urine is clear and flowing freely.
24. Connect the new drainage bag.
25. Clear equipment, measure and record intake / output and calculate urine output.
26. Remove P.P.E. and wash hands.
27. Make sure the patient is left comfortable and encourage fluids and mobilization.
28. Report and document presenting complaints, bladder washout and any abnormalities.

**Note:**

*If no fluid is returned after instillation of the first 30-50mls, instill a further 30mls. If there is no return, stop and contact Urology for advice.*

## 5.18 CATHETER REMOVAL

1. Explain the procedure to gain consent and co-operation.
2. Ensure the patient's dignity and privacy are maintained throughout.
3. Position the patient in a supine position with knees slightly apart.
4. Empty the urine bag.
5. Take the equipment by the bedside:
  - a. P.P.E.
  - b. Alcohol hand rub
  - c. Disposable pad / sheet
  - d. Syringe for balloon deflation – according to volume indicated on catheter
  - e. Tissues
  - f. Disposal bag
6. Place a disposable pad under the buttocks and the disposal bag between the patient's thighs.
7. Fit the syringe snugly into the balloon inflation port. If possible, do not withdraw the water to deflate the balloon. Leave to deflate slowly and then draw the last few drops gently.
8. Ask the patient to breathe in and out a couple of times.
9. As the patient exhales, gently but firmly and steadily, withdraw the catheter into the receiver.
10. Advise the patient regarding the possibility of burning sensation upon micturition, frequency, urgency, haematuria and / or dysuria.
11. Advise the patient to increase oral fluid intake to 2-2.5ltr in 24 hours, unless contraindicated.
12. Provide a urinal and ask the patient to inform the nurse when urine has been passed.
13. Record the amount of urine in the catheter drainage bag on the fluid balance chart.
14. Document the time of catheter removal and when the patient subsequently passes urine.

**Note:**

- *The patient may experience feelings of wanting to pass urine following catheter removal.*
- *If the patient becomes febrile post removal of catheter, inform a doctor immediately.*

Adequate nutrition is important not only to promote health but also for recovery from trauma and surgery. The following factors should be considered when undergoing a nutritional assessment.

- Mental condition** Any deterioration in mental state is likely to affect patient's desire and ability to eat and drink independently and so increase the risk of malnutrition.
- Weight** Patients who appear thin and emaciated are at increased risk of malnutrition.
- Appetite** Patients who are able to maintain their usual appetite and eating habits are less likely to be at risk than those who have a low appetite or refuse meals and drinks.
- Ability to eat** The ability to eat independently is an important factor.
- Functioning of the gastrointestinal tract**- The presence of diarrhoea or constipation is likely to affect the desire to eat and drink and may also lead to malabsorption.
- Pressure sores** The risk of malnutrition increases with severity of pressure sores. Malnutrition poses a risk to pressure sore development.

## 6.1 NASOGASTRIC TUBE INSERTION

1. Explain the procedure to the patient to gain cooperation and consent.
2. Draw curtains to ensure privacy.
3. Ensure the patient is sitting comfortable-upright if possible.
4. Estimate the length of the tube to be inserted by measuring the distance from the patient's nose to the tip of the earlobe and then to the xiphisternum and make a note where this is on the tube.
5. Encourage the patient to relax as much as possible and to breathe steadily.
6. Choose the thinnest possible size of tube (CH12 or CH14 for feeding; larger sizes for drainage).
7. Lubricate the tip of the tube with a water-based lubricant (e.g. Aquagel or KY Jelly).
8. Pass the tube gently into the nostril and pass 90 degrees down backwards not upwards along the floor of the nose to the nasopharynx. (If a blockage is felt, change to the other nostril).
9. Pause to allow the patient to take breathe and recover.
10. Ask the patient to breathe through their mouth and swallow. As the patient swallows and while keeping the head level, gently advance the tube. If an obstruction is felt, retract the tube and rotate the tip slightly to find the way down to the stomach. Do not give the patient a drink as in some cases aspiration rather than swallowing can occur.

11. When the tube has reached the measured distance check that it is in the stomach by:
  - a. Aspirating a small amount of stomach contents from the tube with a 60 ml funnel-tip syringe.  
Place the aspirate into a gallipot and check with pH paper (an acceptable aspirate is between pH 0 to 5).

***N.B. Taking an X-ray to ascertain position.*** Although X-ray is the gold standard, this should only be taken when aspirate from stomach is pH more than 5 due to patient being on antacid treatment. X-ray should also be taken if no aspirate from stomach has been achieved. Otherwise unnecessary radiation and costs should be avoided.

12. Secure the tube using a nose tape and try to avoid friction or pressure on the tip of the nose and patient's vision is not obstructed.
13. Measure the length of the tube that remains out of the nostril and put a mark using a piece of tape.
14. Fill in the NGT Position Chart on insertion and as a daily routine position check to facilitate safety and continuity of care.

**Note:**

- *If a fine bore tube has been inserted, the guide wire should be left in position until an x-ray has confirmed the position of the tube in the stomach. The fine bore tube is fully radio opaque and therefore the guide wire can be removed to keep patients comfortable. However, this should be saved in case the tube needs to be repositioned.*
- *The guide wire of a fine bore tube is removed by holding the tube at the nose with one hand and pulling the wire out with the other. The guide wire is not to be discarded but is kept in a plastic bag labeled with patient's name, I.D. number and date of insertion just in case reinsertion is needed.*
- *N.G. tube position checking should be done at least once daily and documented on the NGT Position Chart*

## 6.2 NASOGASTRIC TUBE (N.G.T.) FEEDING

1. Explain procedure to gain consent and cooperation to patient.
2. Ensure the patient is sitting comfortable and sitting in an upright position.
3. Check that the nasogastric tube is in the stomach by:
  - a. Aspirating a small amount of stomach contents from the tube using a syringe. Place in a galipot and expose to pH paper as shown above.
4. Allow the feed to pass through the tubing to expel all the air and then close the roller clamp.
5. Connect the administration set to the nasogastric tube securely.
6. Continuous feeding should be administered by a feeding pump and not by gravity feeding.
7. Attend to patient's mouth hygiene at least once daily.
8. Observe for diarrhoea or constipation.

### *Note:*

- *When the feed finishes, the set has to be empty, flushed and refilled. Feeding Bags have to be changed on a daily basis.*
- *The administration set must be changed every 24 hours and should be labeled to indicate the date that the change is due and the feeding regimen.*

### 6.3 CHECKING THE POSITION OF THE TUBE DAILY, PRIOR TO FEEDING OR TREATMENT ADMINISTRATION

1. Check the position of the tape on the external part of the NG tube to determine whether the tube has moved out of place.
2. Check with pH indicator strips to gastric aspirate pH  $\leq 5$

The pH method is used for confirming placement in relation to **continuous tube feedings**, at least at the beginning of each shift.

If a patient is on H2 blockers, PPI's or antacids and no gastric aspirate is obtained and / or when there is doubt as to the correct position of tube, a repeat chest x-ray must be considered.

3. If no aspirate is obtained:
  - a. Try changing patient's position.
  - b. If still unsuccessful, inject 30mls of air (in adults) – 10mls in children, 5mls in neonates – down the NG tube, wait for 15 – 30 minutes and try to aspirate again.
  - c. If unsuccessful, advance tube by 10 – 20 cm and try aspirating again.
  - d. If no gastric juice is aspirated, then nurse, Clinical Nutrition Nurse and / or Medical Officer are to decide whether it is necessary to take chest x-ray.
4. **If the pH of gastric juice for a particular patient is repeatedly higher than 5 :**
  - a. Check that x-ray taken on insertion has shown that N.G. tube is in place,
  - b. Check that the length of tube out of the nostril remained stable, then tube can be used for feeding. In this case one can assume that this pH value is normal for the patient.
  - c. If in doubt, feeding should be postponed till the NG tube position is ascertained.
  - d. Please follow the NGT Position Chart as this is an easy guide for correct positioning of tube.

#### Important:

- Checking of a nasogastric tube should be carried out by a qualified nurse ONLY.
- The position of a nasogastric tube after chest x-ray should be confirmed by a doctor before feeding can be started.
- There is no need to repeat a chest x-ray unless the health professional operating the procedure decides that this is required as there is some degree of doubt.
- In the case of a patient on P.P.I.'s, H2 blockers or antacids a repeat chest x-ray must be considered each time the tube is replaced. ***If insertion of tube is postponed, then alternative means of hydration and of giving treatment need to be prescribed by a Medical Officer.***

## Checking the pH of gastric juice

Step 1



Step 2



Step 3



Step 4



#### 6.4 FEEDING VIA A P.E.G. (PERCUTANEOUS ENDOSCOPIC GASTROSTOMY)

1. Explain the procedure to gain consent and cooperation.
2. Maintaining asepsis, open the enteral feed administration set, attach it to the bottle and close the flow control roller clamp.
3. Attach the hanger to the feed container and hang the feed container on the infusion stand.
4. Perform hand hygiene.
5. Open the roller clamp on the administration set and allow the feed to run through to expel all the air, then close the clamp.
6. The plastic cap on the end of the administration set should remain in place so that the tube remains clean.
7. Using the syringe, draw up 10-40 ml of water and flush the P.E.G.
8. Insert the administration set into the pump and remove the plastic cap at the distal end of it and attach it to the P.E.G. tube.
9. Open the roller clamp and turn on the pump.
10. Check that the feed is running and is not leaking at the connection with the P.E.G. tube and that the tube is not kinked or blocked.
11. Return regularly to check that the feed is running satisfactorily.
12. Document the type of feed, time started, rate of flow and volume of water used to flush the tube.

**Note:**

- *The P.E.G. tube should be used for feeding after bowel sounds are heard.*
- *The administration set must be changed every 24 hours and should be labeled to indicate the date that the change is due and the feeding regimen.*
- *If the P.E.G. is not used for feeding for a period of time it should be flushed daily to ensure patency.*

## 6.5 TOTAL PARENTERAL NUTRITION – T.P.N BAG CHANGE

1. Perform hand hygiene.
2. Put on a disposable apron and non sterile gloves.
3. Disconnect previous T.P.N. line from needle-free connector attached to C.V.C. and dispose of in a domestic waste bag.
4. Set up a clean surface wiped with 70% alcohol and let it dry or with available disinfection wipes.
5. Keep an alcohol hand rub close-by and apply alcohol to the hands as necessary.
6. Use an aseptic non-touch technique.
7. Hang the new T.P.N. bag with the drip stand.
8. Use only sterile and appropriate tubings, I.V. bags and other equipment.
9. Rub hands with alcohol rub until dry.
10. Disinfect the needle-less hub (connector) using friction for 15 seconds with 2% Chlorhexidine in 70% Alcohol and leave to dry.
11. Never touch the connection points or needle-less hub (connector) with your fingers.
12. Connect the infusion line to the T.P.N. bag using an aseptic non-touch technique.
13. Prime the line with T.P.N. solution and connect to the needle-less hub (connector).
14. Using aseptic non-touch technique, add any additives into the T.P.N. bag as suggested by the Consultant, Consultant Gastroenterologist or Clinical Nutrition Nurses.
15. First time TPN should be started very slowly for the first 4 hours to prevent hyperglycaemia.
16. Tailing down time also applies when planning to stop TPN to prevent hypoglycaemia.
17. TPN hourly rates and additives should be determined by the referred gastroenterologist.

## 6.6 TOTAL PARENTERAL NUTRITION - CENTRAL VENOUS LINE (C.V.L.) CARE

1. Perform hand hygiene by applying alcohol hand rub.
2. Put on disposable apron.
3. Set up a clean surface wiped with 70% alcohol and let dry or with available disinfection wipes.
4. Put on disposable gloves and carefully remove old dressing.
5. Inspect the insertion site for redness, oozing, swelling etc.
6. Perform hand hygiene again by applying alcohol rub and let dry.
7. Open sterile pack on the clean surface.
8. Use an aseptic non-touch technique.
9. Disinfect the skin around CVL entry point with gauze swab soaked in 2% Chlorhexidine in 70% Alcohol. Remove any dry blood debris.
10. Using a new gauze swab soaked in 2% Chlorhexidine in 70% Alcohol, clean the C.V.L. away from the entry point along the lumen.
11. If a 3-way tap is used, clean it as well with 2% Chlorhexidine in 70% Alcohol.
12. Apply a sterile, transparent, semi-permeable polyurethane film dressing (or sterile gauze and clean tape if the patient is allergic to transparent dressings).
13. Label dressing with date and initials of nurse
14. Perform hand hygiene.
15. Document change of dressing in the 'Daily CVC review form'. This is available at Infection Control desktop icon. Link: <C:\Documents and Settings\All Users\Desktop\Infection Control.lnk> (Central Venous Catheter).

## 6.7 PREVENTING ASPIRATION PNEUMONIA

1. Make sure that a consulting firm prescribes enteral feeding for the patient.
2. Refer the patient to a dietician so that a tailor made feeding regimen is formulated.
3. Set up an initial feeding regime at a standard rate of Nutricomp 25 ml/hr (plus extra fluids to make up for the daily fluid needs) over 20 hours until requested dietician visit is performed.
4. Regulate the rate of feeding by a feeding pump.
5. Check amount of gastric residue, 4 hours after starting the feed, by aspirating with a syringe via the nasogastric tube.
6. Stomach aspirate should never exceed 200 mls. If this happens, lower the hourly feed and inform doctor to prevent gastric reflux.
7. Perform regular mouth care with mouthwash solution containing Chlorhexidine .

## 7.1 CHANGING OF A STOMA APPLIANCE

1. If the patient is mobile guide the patient to a bathroom since this is the best environment to change an appliance i.e. flange (wafer) and pouch (bag). However if the patient is confined to bed assist him/her to sit or lie in a comfortable position.
2. Ensure privacy and dignity is maintained throughout.
3. Place a protective pad next to the stoma site to protect clothing and reduce the necessity for changing soiled clothes.
4. Apply alcohol hand rub.
5. Put on apron and gloves.
6. If the patient is wearing a drainable pouch, empty the contents first to avoid spillage. Then, by starting at the top of the flange, remove slowly the bag from the flange.
7. The flange is to be changed every 2 to 3 days (see note further down in text).
8. If flange is to be changed remove flange slowly from top to bottom. Use adhesive remover if necessary.
9. Wash the stoma and peristomal area with warm water and kitchen rolls or non sterile gauze. Never use toilet paper or tissue as they disintegrate when wet.
10. Dry the skin well by patting it with the non sterile gauze or kitchen roll.
11. Measure the stoma size. Stoma size will change during the first 8-10 weeks from operation. Hence stoma needs to be measured before every flange change. Make a template (pattern) as a guide.
12. The flange's aperture should be cut to the size and shape of stoma.
13. Remove the flange's backing paper and position it well making sure that the stomal mucosa is not covered with the flange.
14. Apply the stoma bag to the flange making sure that the bag has clipped well to the flange.
15. If using a drainable pouch / urostomy pouch, apply the clip or close the tap as appropriate
16. Dispose of the soiled waste in a domestic waste bag.
17. Remove gloves and apron and discard into waste bag.
18. Wash hands with soap and water.
19. Document output and report any abnormalities.

**Note:**

- *A stoma bag must be drained/changed regularly, when it is up to 1/3 full to prevent leakage.*
- *Aperture should be cut to the shape and size of stoma to ensure peristomal skin protection from effluent of stoma.*
- *A wide aperture may cause skin irritation from effluent of stoma whilst a too tight aperture may damage stoma.*

## 7.2 IMMEDIATE POST OPERATIVE OBSERVATION OF A NEWLY FORMED STOMA

1. Check the appearance of the stoma every 4 hours. It is important that the nurse receiving the patient from theatre should make sure that the patient has on a transparent and drainable bag for easy visualisation.
2. Document the appearance of the stoma in the nursing report. The stoma should be red to pink.
3. The stoma can be swollen and oedematous in the early post operative period.
4. If the stoma is black or very dark in colour, this means that the blood supply may be compromised, which could lead to necrosis. Inform the surgical team immediately.
5. Document all output from the stoma as well as flatus on the fluid balance chart. A nil output should also be documented.
6. Ensure that the flange is adhering to the skin well and that the bag is well clipped to the flange and that no leakage has occurred.
7. Make sure that the flange is surrounding the stoma comfortably and that is not sitting on top of the stomal mucosa, or cut too tightly.
8. The flange should always be placed directly on the skin. The wound dressings are to be placed on top of the flange.
9. A transparent drainable bag that ensures good visibility and early detection of any problems should be used approximately for three to five days. After, this period if no evident problems with stoma are present, an opaque bag can be used.

### 7.3 STOMA APPLIANCES

The system adopted at out hospital is a two piece system where the pouch and flange are separated.

**Colostomy Appliance:** Generally, a close pouch is used which approximately will need changing once or twice daily. The flange is to be changed every second or third day.

**Ileostomy Appliance** Ileostomies can be very active in the early post operative period and will need to be closely monitored. The pouch used is a drainable one, which needs to be changed daily and emptied regularly. **It is imperative that an accurate fluid balance chart is maintained since these patients can easily become dehydrated.** The flange is to be changed every alternate day.

**Urostomy Appliances** The flange and pouch (which in this case is with an end tap) would usually stay in place 2 days i.e. .the flange and pouch will need changing alternate days. The pouch will need regular emptying.

During urostomy formation, a stent is usually inserted into each ureter to ensure its patency. The stents are left in place and are usually left to be removed spontaneously or according to surgeon's preference.

A urinometer is to be used in the immediate post operative period to allow hourly accurate urine measurements.

When a urinometer is not needed, an overnight drainage is to be connected to the pouch (use the connector that will be available in the box of the bags) as it provides reassurance, comfort and allows the patient to sleep without being disturbed.

## 8.1 PREPARING AN INTRAVENOUS INFUSION (I.V.)

Explain the reasons for IV infusion and any limitations to mobility.

## INTRAVENOUS FLUID

1. The IV fluid should be checked by a registered nurse.
2. Check that the outer wrapper is intact and not damaged.
3. Open the packaging and check the fluid bag for leakage, particles and cloudiness.
4. Check the expiry date and batch number.

## ADMINISTRATION SET

1. Check that the outer wrapper is intact and that contents are sterile.
2. Check the expiry date.
3. Open the packaging and remove the administration set, keeping both ends covered.
4. Close the flow control clamp on the administration set.
5. Remove the protective cap from the insertion port on the bag of fluid and hold carefully to maintain sterility.
6. Remove protective cap from the spike of the administration cap.
7. Using a non touch technique, insert spike into the bag by twisting and pushing until fully inserted.
8. Hang the bag on the infusion stand and release the drip chamber till half full with fluid.
9. Open the roller clamp slowly to allow the fluid to run through the set and hence expelling air.
10. Close the clamp and the infusion is ready to be used.
11. Taking care to maintain sterility (perform hand hygiene), remove the protective cap from the administration set and the cap from the cannula.
12. Swiftly connect the set and lock into position.
13. Instruct to patient to report any swelling, redness or pain.

14. Discard all packaging into clinical waste system, taking care to discard the spike into the sharps box and the rest into domestic waste bag.
15. Record the time the infusion started and the batch number of the IV fluid
16. Document on the intake-output chart.

*Note:*

- *Blood and blood products require an administration set with a filter above the drip chamber.*
- *A burette may be used to administer small amounts of fluids.*
- *Infusions requiring great accuracy will be controlled through an IV pump*

## 8.2 CHANGING AN INFUSION BAG

1. Explain the procedure to the patient.
2. Remove the infusion fluid from the outer wrapper and check the fluid bag for leakage, particles, cloudiness, expiry date, batch number and volume as prescribed.
3. Ensure it is the correct infusion fluid by checking it with the drug administration chart and the patient's identity band.
4. Close the roller on the administration set.
5. Remove the empty bag by holding the spike firmly, taking care not to contaminate.
6. Remove the protective cap from new infusion bag and insert spike of giving set by twisting until fully inserted.
7. Replace the bag on the infusion set and adjust roller clamp to the prescribed flow rate.
8. Check at least hourly that the infusion is running as prescribed and that the patient is not complaining of pain or discomfort at site.
9. Observe patient for signs of fluid overload by checking respiratory rate and pulse rate.
10. Document the infusion (amount, type of fluid, time commenced, batch number and signature of nurse) on the fluid balance chart.
11. Discard the used infusion bag in the clinical waste system.

**Note:**

- *The use of IV devices such as syringes and pumps to regulate infusions is increasing in general wards. However, a large number of simple infusions will be regulated using gravity and the roller clamp.*
- *It is important that infusions run at constant rate over the prescribed time.*

### 8.3 DISPOSAL OF AN INFUSION BAG WITH IVI SET

1. Place the infusion bag still attached to the IVI set in a tray and take to the dirty utility.
2. Puncture bag and empty any remaining fluid (if there is) in sink of dirty utility, except for bags used to infuse blood or cytotoxic treatment.\*
3. If the container/bag is made of plastic and has the plastic bar at the end of the bag, do not detach the set but dispose of the bag and the attached IVI together into a domestic waste bag.
4. If the IV set has been removed or it is attached to a glass bottle, detach the IV set from the bottle and cut off the spike with a pair of scissors; dispose of it into a sharps container.
  - a. Discard the IV set without the spike into a domestic waste bag
  - b. Discard any plastic IV bottles/bags also into a domestic waste bag
  - c. Discard glass bottles into glass waste bins.

\* N.B. In the case of:

- **Used blood bags and I.V. sets:** these are to be disposed in yellow clinical waste bags.
- **Bags and I.V. sets used for cytotoxic infusion:** DO NOT puncture after use but discard the whole bag (including remaining fluid) as well as I.V. set into an appropriate cytotoxic waste bin.

#### 8.4 CALCULATING THE FLOW RATE IN 'DROPS PER MINUTE'

The number of drops per ml is determined by the administration set used and is indicated on the packing.

Standard administration set= 20 drops per minute

Blood administration set= 15 drops per minute

$$\text{Flow rate} = \frac{\text{volume of infusion in ml} \times \text{number of drops per minute}}{\text{Time in minutes}}$$

#### 8.5 CALCULATING THE FLOW RATE IN 'MILLILITERS PER HOUR'

$$\text{Flow rate in millilitres per hour} = \frac{\text{volume of infusion in ml}}{\text{Number of hours}}$$

## 8.6 PREVENTING INFECTIONS WHEN INSERTING AND MAINTAINING A PERIPHERAL VASCULAR CATHETER (P.V.C.)

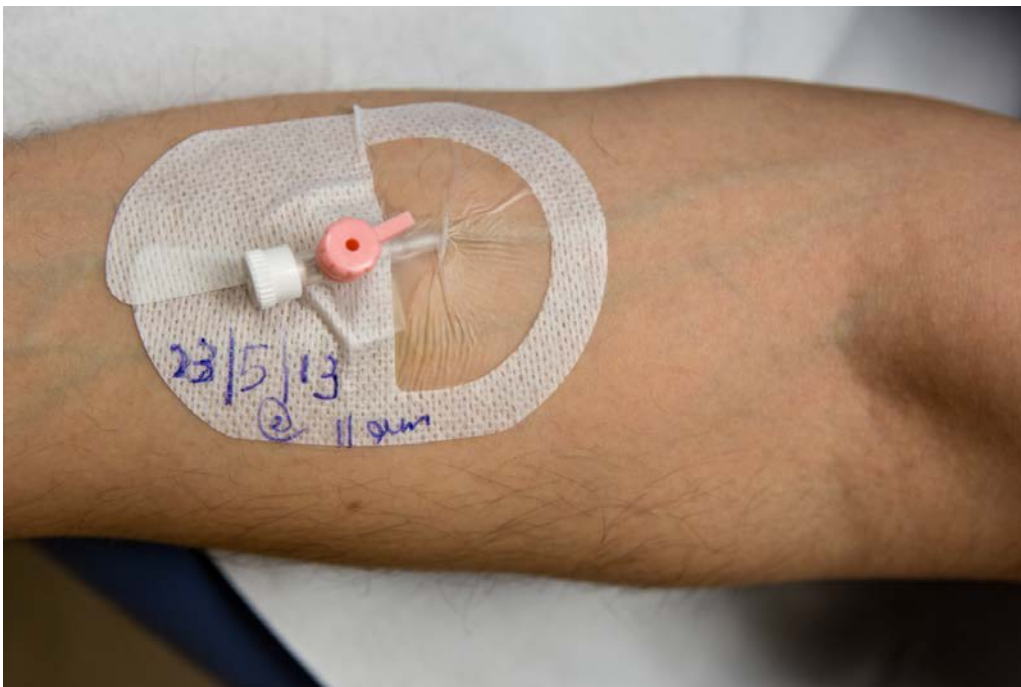
1. When inserting a P.V.C. ensure that:
  - a. A P.V.C. is clinically indicated for this patient.
  - b. Hand hygiene is performed immediately before all P.V.C. insertion procedures.
  - c. A skin antiseptic containing 70% isopropyl alcohol is used to cleanse the skin and left to dry before insertion.
  - d. Aseptic technique is maintained throughout the insertion procedure i.e. 'critical parts are not touched'.
  - e. One sterile transparent, semi-permeable dressing is used to cover the catheter site.

0	I.V. site appears healthy
1	<b>One</b> of the following is evident: <ul style="list-style-type: none"><li>• Slight pain near I.V. site</li><li>• Slight redness near I.V. site</li></ul>
2	<b>Two</b> of the following are evident: <ul style="list-style-type: none"><li>• Pain near I.V. site</li><li>• Erythema</li><li>• Swelling</li></ul>
3	<b>All</b> of the following are evident: <ul style="list-style-type: none"><li>• Pain along path of cannula</li><li>• Erythema</li><li>• Induration</li></ul>
4	<b>All</b> of the following are evident and <b>extensive</b> : <ul style="list-style-type: none"><li>• Pain along path of cannula</li><li>• Erythema</li><li>• Induration</li><li>• Palpable venous cord</li></ul>
5	<b>All</b> of the following are evident and <b>extensive</b> : <ul style="list-style-type: none"><li>• Pain along path of cannula</li><li>• Erythema</li><li>• Induration</li><li>• Palpable venous cord</li><li>• Pyrexia</li></ul>

*Visual Infusion Phlebitis (VIP) Score*

2. When maintaining an inserted PVC and accessing the insertion site and line ensure that:
  - a. The clinical need for the PVC is reviewed and recorded on a daily basis.
  - b. Doctors review the need for IV therapy including antibiotics daily – switch to oral if possible.
  - c. Hand hygiene is performed immediately before accessing the line / site.

- d. Remove the PVC after a period of 72 hours from insertion.
- e. The PVC site is assessed daily and VIP score documented on the peripheral assessment sheet.
- f. Remove the PVC where there is phlebitis or inflammation at the site.
- g. PVC dressings are intact.
- h. An antiseptic containing 70% isopropyl alcohol is used to clean the hub before accessing –rub the access hub for at least 15 seconds ('scrub the hub').



Date & Time Recording of cannula insertion

**Note:**

- *Documenting date and time of catheter insertion is an important step to achieve timely line removal.*
- *The use of personal protective equipment (P.P.E.) including gloves is important in all procedures where blood and body fluid risk exists.*

## 8.7 CHANGE OF P.V.C. DRESSING

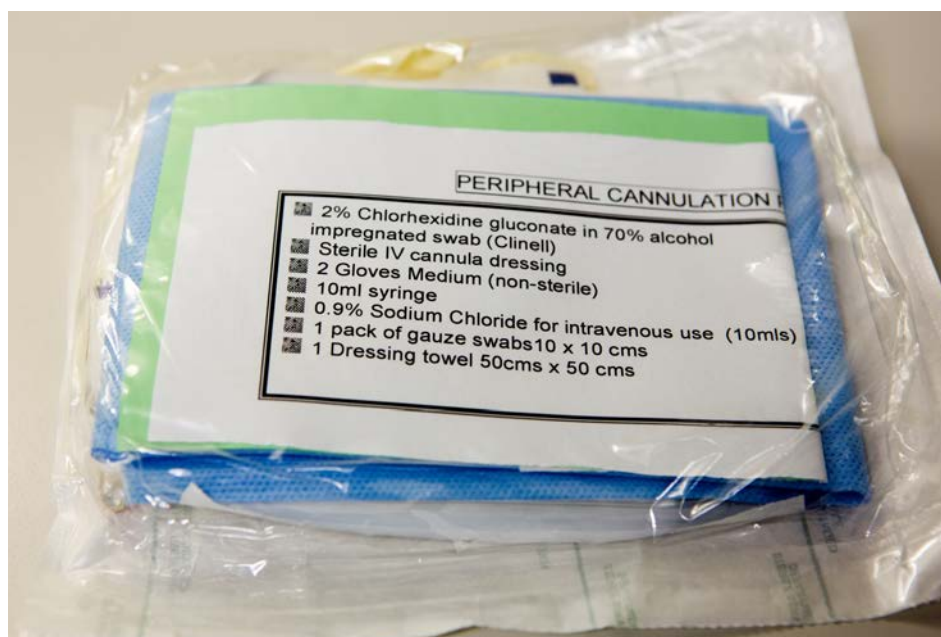
1. Explain the procedure to gain co-operation and consent
2. Ask the patient to keep arm very still during the dressing to prevent dislodgement.
3. Maintain asepsis.
4. Apply handrub and put on gloves and a plastic apron.
5. Use a small dressing pack and an antiseptic containing 70% isopropyl alcohol is used to cleanse the skin.
6. Open dressing pack.
7. Put on gloves and apron and remove the old dressing, taking care not to dislodge the cannula.
8. Clean the site and inspect for signs of phlebitis and infection
9. Apply the new dressing, taking care not to touch the part which will be directly over the insertion site.
10. Dispose soiled dressing and other waste appropriately.
11. Document the care and report any abnormalities.

**Note:**

*The site should only require cleaning if there is blood present. If exudate or pus is present, the cannula should be removed and the tip of the catheter and also a swab from the infected exit site should be collected and sent to laboratory for culture.*

## 8.8 CARE OF PERIPHERAL CANNULA SITE

1. Explain the procedure to gain co-operation and consent
2. Ask the patient to keep arm very still during the dressing to prevent dislodgement.
3. The cannula is considered as a wound and asepsis should be maintained.
4. Apply handrub.
5. Use a small dressing pack and 0.9 % Normal Saline as a cleansing solution.
6. Open dressing pack.
7. Put on gloves and remove old dressing, taking care not to dislodge the cannula.
8. Clean the site and inspect for signs of phlebitis and infection
9. Apply the new dressing, taking care not to touch the part which will be directly over the insertion site.
10. Dispose soiled dressing and other waste appropriately.
11. Document the care and report any abnormalities.



Equipment needed for Peripheral Cannulation

**Note:**

*The site should only require cleaning if there is blood present. If exudate or pus is present the cannula should be removed.*

## 8.9 REMOVAL OF A PERIPHERAL IV CANNULA

1. Explain the procedure to gain co-operation and consent
2. Put on the gloves.
3. Remove the old dressing, leaving the cannula in situ.
4. Fold a piece of gauze into four to create an absorbent pad.
5. Place the folded gauze over the cannula insertion site.
6. Continue to apply pressure until the bleeding has stopped, to prevent haematoma formation.
7. Apply a small dressing, or tape and a piece of sterile gauze over the site.
8. Discard all waste appropriately.
9. Document removal of cannula and report any abnormalities.

*It is highly recommended that one should refer to the Infection Control icon on the desktop for further details on any of the above procedures.*

The following apply to the administration of all medications regardless the route.

1. Check that the drug administration chart has the patient's full name and identity card number.
2. Check by which route each drug is to be administered.
3. Check that the prescription is dated, is legible and signed by the doctor.
4. Check that it is the correct time to administer the drug and if there are any special observations or requirements that need to be made related to the drug (for example before food or monitor blood pressure).
5. Check that the correct medication and the correct dose by checking the container against the drug administration chart.
6. Check the patient's identity using the patient's identity bracelet.
7. Administer the medication.
8. Sign the drug administration chart after the medication has been taken

**Note:**

- *Medicines must NEVER be left unattended on bedside.*
- *Document if medication had not been administered for some reason.*

## 9.1 ORAL ROUTE

1. Check the prescription as explained above.
2. Perform hand hygiene.
3. Calculate how many tablets or capsules / how much liquid is required to achieve the prescribed dose.
4. Break scored tablet with a cutter but not with the hands
5. Dispense the prescribed amount into the medication pot.
6. Repeat with all medications prescribed at that time.
7. Check identity of patient with identity band against the drug administration chart.
8. Make sure that the patient is able to swallow and has enough fluid.
9. Do not leave medicines unattended at bedside for later administration.
10. Sign the drug administration chart to document that drugs had been administered.

## 9.2 CONTROLLED DRUGS

1. Two nurses must be involved in all aspects of this procedure.
2. Explain the procedure to patient to gain consent and co-operation.
3. Make sure that the patient understands the reasons behind taking the medication.
4. Read the drug administration chart to ascertain which drugs are to be administered and by which route.
5. Check that the drug administration chart has patient's full name, identity number, is legible, dated and signed by a doctor.
6. Check that it is the correct time to administer the drug.
7. Select the appropriate drug from the controlled cupboard, checking that the quantity of tablets / liquid present corresponds to amount indicated in the registered book.
8. Check the expiry date.
9. Check the drug against the prescription.
10. Check and document the quantity remaining and lock the cupboard.
11. Continue the procedure as in previous section.
12. Post administration, both nurses have to sign the drug administration chart and the registered controlled book.

**Note:**

- *The keys of the controlled cupboard must be kept separate from other keys and carried by a designated person, usually the nurse in charge.*
- *The keys should not be handled by unauthorized personnel.*

### 9.3 SUBCUTANEOUS INJECTION

1. Explain procedure to patient to gain assistance and co-operation
2. Check the drug against the prescription and check the patient's identity band.
3. Prepare the syringe.
4. Select the site of administration.
5. The skin should be cleansed when indicated.
6. Pinch the skin using the thumb and first finger of your non-dominant hand and insert the short needle into the subcutaneous tissue at an angle of 90 degrees.
7. Make sure that you have not entered into a blood vessel.
8. Inject the solution gently, pause briefly before withdrawing the needle.
9. Do not massage the site
10. Dispose the syringe and needle into the sharps box immediately.
11. Sign the prescription to indicate that the drug has been administered.

**Note:**

- *Only qualified nurses can administer subcutaneous injections.*
- *The skin is not cleaned because with repeated use of alcohol, the skin may harden.*
- *Patients having subcutaneous insulin injections need rotation of sites. The usual sites are the upper arms, the anterior aspects of the thighs and the abdomen.*
- *Heparin is usually given into the subcutaneous tissue of the abdominal wall.*
- *There is no need to clean the skin when administering insulin injections.*

#### 9.4 INTRAMUSCULAR INJECTION

1. Explain procedure to patient to gain assistance and co-operation
2. Check the drug and any diluent against the prescription and check the patient's identity band
3. Open the syringe packaging at the plunger end and remove the syringe.
4. Taking care not to touch the nozzle end, hold the syringe in one hand and open the needle packing at the coloured end.
5. Attach the needle firmly to the syringe and loosen, but do not remove the cover
6. Place in a tray.
7. If a glass ampoule of liquid is being used, ensure that all the contents are in the bottom of the ampoule, then break off the top, using the syringe wrapper / tissue clinical wipe to protect your fingers.
8. Pick up the syringe and needle and allow the needle cover to slide off into the tray.
9. Carefully insert the needle through the neck of the ampoule and into the solution.
10. Draw back on the plunger, using your thumb and middle finger on the plunger with your first finger against the flange of the syringe, until the required amount is in the syringe.
11. If the drug to be given is in the powder form, draw up the diluent and clean the rubber stopper of the ampoule / vial with a swab.
12. Inject a small amount of diluent into the vial / ampoule.
13. Mix the drug thoroughly by gently agitating the ampoule / vial until all the powder has been dissolved.
14. Hold the ampoule / vial upside at eye level, draw the drug into the syringe, making sure that the needle remains below the surface of the liquid to prevent air being drawn into the syringe.

15. Replace the ampoule in the tray. Pick up the needle cover and taking care not to touch the needle with your hand, carefully resheath the needle.
16. Hold the syringe upright at eye level and encourage any air to rise to the top of the syringe.
17. Gently tap the barrel of the syringe if necessary to make air bubbles rise to the top.
18. Expel the air by gently pressing the plunger until droplets of liquid are seen at the top of the needle.
19. Take the tray containing the syringe, ampoule, alcohol swab and the sharps box near the patient. Check the drug, name on prescription against identity of patient again.
20. Select the site, clean with alcohol swab and allow to dry.
21. Stretch skin slightly with non-dominant hand.
22. Hold the syringe like a dart in your dominant hand, then insert the needle swiftly at an angle of 90 degrees leaving about 1 cm of needle showing.
23. Withdraw the plunger slightly to make sure that the needle has not inadvertently entered a blood vessel.
24. Depress the plunger steadily until the syringe is empty.
25. Withdraw needle and press firmly on the skin with a swab.
26. Do not resheath the needle
27. Discard it into a sharps box.
28. Sign the prescription to indicate that the drug has been given.

## 9.5 INTRAVENOUS INJECTION

1. Explain the procedure to gain consent and co-operation.
2. Check the drugs as prescribed and as explained above.
3. Prepare the drugs of administration, checking the expiry date of all drugs and any diluents used.
4. Prepare 10 ml of 0.9 % Normal Saline for flushing.
5. At the bedside, check the drugs and the patient's name band against the prescription again.
6. Check the cannula site for signs of infection, phlebitis, discomfort or pain.
7. If an infusion is running, the intravenous bolus may be administered via the small injection port that is situated in the administration set.
8. Disinfect the injection port.
9. Before administering the drug, inject a small amount of 0.9 % Normal Saline to confirm the patency of the cannula.
10. Administer the drug and flush.
11. If a number of drugs are to be given, flush between each one to prevent mixing in the cannula.
12. Dispose the ampoules into sharps box.
13. Document on the drug administration chart.

## 9.6 INSTILLING EARDROPS

Ear drops are used to fight infection and inflammation, soften earwax for easier removal and produce local anaesthesia.

1. Review the patient's treatment chart to verify the doctor's prescription. Compare the label, including expiration date on the eardrops container. (Date of opening should also be clearly labelled – drops are usually discarded after 28 days of opening. Refer to drug literature).
2. Explain the procedure to the patient. Instruct him / her that it will be necessary to lie still for 5-10minutes after the procedure.
3. Perform hand hygiene.
4. Place the patient in a supine position with the head turned toward the unaffected side.
5. If necessary, wear gloves and cleanse the external ear with saline and cotton or swabs as this could decrease the medication's effectiveness.
6. Remove the cap from the medication container and, if a dropper is to be used, draw up the correct amount of medication. Do not contaminate the container cap.
7. With the non-dominant hand, straighten the external canal by gently pulling up and back on the ear for an adult, or down and back for a child.
8. Instill the prescribed amount of medication, one drop at a time. Direct the flow of the medication towards the roof of the ear canal. Do not allow the dropper to touch the ear.
9. Gently massage or apply gentle pressure to the tragus of the ear with your finger to move the medication inward.
10. Place a cotton ball loosely into the opening of the ear canal to absorb any excess medication. Avoid inserting it too deeply, which would impede drainage of secretions and increase pressure on the eardrum.
11. Instruct the patient to lie still for 5-10minutes to allow the medication to be absorbed, rather than run out of the ear. Remove the cotton wool after 15minutes
12. After this period, assist the patient to a comfortable position.
13. Remove supplies from the bedside and store or discard as appropriate.
14. Perform hand hygiene.
15. Record the procedure in the patient's treatment chart.

## 9.7 INSTILLING NASAL DROPS

1. Review the patient's treatment chart to verify the doctor's order. Compare the label, including expiration date on the eardrops container. (Date of opening should also be clearly labeled – drops are usually discarded after 28 days of opening. Refer to drug literature).
2. Approach and identify the patient.
3. Instruct the patient to gently blow his / her nose.
4. Perform hand hygiene.
5. The aim is to get the liquid to spread over all the inside surface of the nose – including the upper surface. There are 2 head positions that are found to be effective. A good position is to instruct your patient to lie on the bed, with head hanging back over the edge and the other is to lie on one side with chin elevated. If the patient refuses the drops or fails to hold their head in the best position, much of the drug is either not delivered or lost to the external environment or into the throat. The patient should stay like this for about 2 minutes.
6. Instill the prescribed amount of medication, one drop at a time.
7. After this period, assist the patient to a comfortable position.
8. Remove supplies from the bedside and store as appropriate.
9. Perform hand hygiene.
10. Record the procedure in the patient's treatment chart.
11. Do not put in nose drops by tilting the head back when standing or sitting. The upper surface inside your nose will not be covered by the liquid.

## 9.8 INSTILLING NASAL SPRAYS

1. Review the patient's treatment chart to verify the doctor's order. Compare the label, including expiration date on the eardrops container. (Date of opening should also be clearly labeled – drops are usually discarded after 28 days of opening. Refer to drug literature).
2. Approach and identify the patient.
3. Instruct the patient to gently blow his / her nose.
4. Perform hand hygiene.
5. Shake the bottle and remove the dust cap.
6. Close one nostril and put the nozzle in the other nostril. Instruct the patient to tilt his / her head forward slightly and keep the bottle upright.
7. Instruct the patient to start to breathe in slowly through the nose, while he / she is breathing in squirt a spray of fine mist into the nostril by pressing down firmly.
8. Instruct the patient to breathe out through the mouth.
9. Repeat for the other nostril.

## 9.9 USE OF EYE DROPS

1. Eye drops are sterile before the bottle top is opened.
2. Once it is opened keep the bottle closed in a cool dark place (unless otherwise advised).
3. Do not let the dropper touch your fingers or any other surface.
4. Throw out the bottle after the recommended time. This is often four weeks after first opening. There is a risk that eye drops may become infected if they are kept and used for longer than advised.
5. It is encourage to document the date when the bottle was opened on the label.

## 9.10 INSTILLATION OF EYE DROPS

1. Check the treatment chart of the patient.
2. Perform hand hygiene.
3. Explain the procedure to the patient to gain consent.
4. Ask the patient to assume the sitting position when possible.
5. Instruct patient to tilt head backwards (about 45 degrees).
6. Shake the bottle well.
7. Pull downwards the lower eye lid gently.
8. Gently squeeze the dropper between thumb and forefinger of opposite hand to instill drops.
9. Ask patient to close both eyes.
10. Wipe away tears and excess medication with a tissue.
11. Put a date on the newly opened bottle.
12. Perform hand hygiene.
13. Document in patient's treatment chart.

**Note:**

- *Eye drops administered for glaucoma should be left for 15 minutes before other eye drops are administered.*
- *Eye drops administered for other eye conditions should be left for 5 minutes before other eye drops are administered.*

## 10.1 PRINCIPLES OF SAFE HANDLING

1. Avoid lifting when possible- use lifter if body weight bigger than the person who is to move the patient.
2. Assess the situation:
  - a. What is the weight of patient and ability to assist in moving?
  - b. What equipment is required? e.g. walking frame
  - c. Any dangers in environment? e.g. water on the floor or clutter
  - d. Any extensions? e.g. catheters, drains, IVI tubing
  - e. Are breaks of bed locked?
  - f. Is height of bed appropriate?
  - g. How many staff do I need to move patient?
3. Communicate clearly, so that all involved know what to expect.
4. Avoid tensing the muscles
5. Adapt a stable stance- the feet must be about a hip-width apart.
6. Keep your knees soft or bent.
7. Keep the load as close to your body as possible.-avoid stretching.
8. Avoid twisting or bending sideways.
9. Assess the situation
10. Communicate clearly, so that all involved know what to expect.
11. Avoid tensing the muscles
12. Adapt a stable stance- the feet must be about a hip-width apart.
13. Keep your knees soft or bent.
14. Keep the load as close to your body as possible.-avoid stretching.
15. Avoid twisting or bending sideways.

## 10.2 PRINCIPLES RELATED TO RISK ASSESSMENT OF PRESSURE SORES

- A number of different tools are available for assessment of pressure sore risk.
- The risk assessment should be documented on the nursing notes and measures should be implemented to minimise any risk.
- Pressure relieving mattresses should be applied and two hourly turnings maintained when needed.
- The assessment must be repeated regularly.

*Most tools incorporate the following:*

- *Weight, height, build, gender, age*
- *Levels of mobility- restricted movement, paralysed, active, presence of infusions, other wounds.*
- *Diet and nutrition- method of feeding, smoker, alcohol consumption*
- *Skin condition- dry, clammy, healthy, oedematous, level of hydration*
- *Medical condition- diabetes, terminal illness, vascular condition*
- *Mental condition- whether patient appears alert, apathetic or lethargic.*
- *Prescribed medication- sedation, analgesia, steroids, cytotoxic drugs, insulin.*

### 10.3 REPOSITIONING A SUPINE PATIENT USING A SLIDE SHEET

Staff may have resorted to use bed sheets to move patients up the bed. This is not recommended because there is a risk of tearing or causing friction burns to patients' skin. Use of draw sheets is strongly contraindicated due to a high risk of back injury.

#### PRINCIPLES OF SLIDE SHEETS

- Enable patients to be slid up a surface or over on to their side-up the bed or rolled over in bed.
- Reduce the risk of shearing to patients' skin and also reduce the amount of pushing and pulling the nurses have to do.
- Made from slippery material and can be hazardous.
- Should not be left on the floor or under an unattended patient.
- The slide sheet should be removed after repositioning. Leaving it under the patient will cause the patient to slide down.

#### USING A SLIDE SHEET

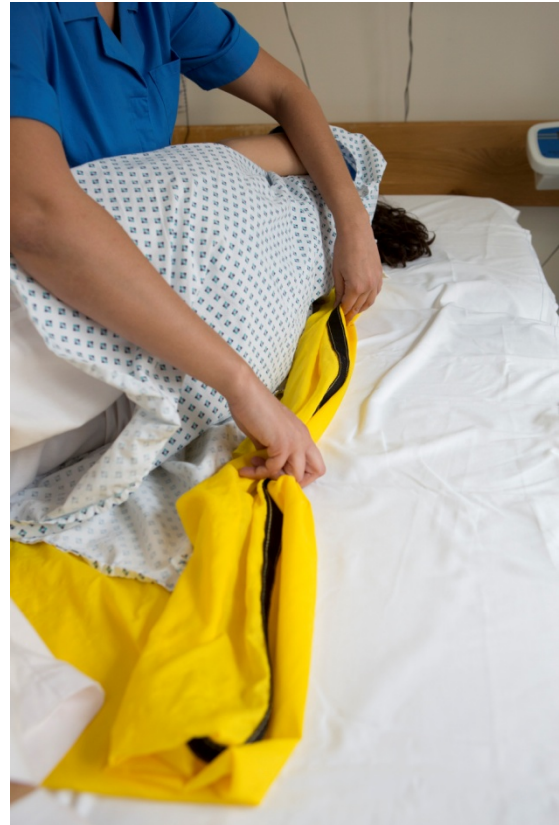
1. Assess the mobility status of the patient and consult other staff if need be.
2. Determine how many staff is required and ascertain the equipment needed.
3. Explain the procedure to the patient.
4. Advice then that the patient will be slid up the bed using a slide sheet, but might be asked simple instructions such as placing their chin on their chest when staff need to roll.
5. Ensure patient's privacy by screening the bed and ensure that the patient will not be exposed.
6. Ensure that the environment is safe. Remove any obstructions that could hinder the manoeuvre, such as chairs and patient's belongings.
7. Ensure the bed brakes are on. The bed should be at a safe working height.
8. Perform hand hygiene and put a plastic apron.
9. Gloves need only to be worn if staff is coming in contact with blood or body fluids.
10. Check the sliding sheet and ensure that it is clean.
11. (Nurse A) Assist the patient to ease slightly onto their side towards another nurse (Nurse B), asking them to place the lower arm away from their side (or to raise it slightly above themselves on the pillow) and their upper arm on their chest. Ask the patient to look at the other nurse (Nurse B).
12. Nurse A – Prepare the sheet-roll it in half so it can be placed under the patient.

13. Nurse A- Insert the slide sheet under the patient, ensuring that their head, trunk and legs are on the slide sheet. If the patient's feet are not on it, place a smaller slide sheet under them to prevent shearing and friction burns to heels.
14. Roll the patient onto their back and onto the slide sheet. It may be necessary to ease them slightly over on the opposite side towards Nurse A to check that the slide sheet is positioned correctly.
15. Both nurses should adopt a safe position before sliding the patient, standing either side of the patient's bed at the pillow end with one leg forward ready to transfer the weight backward on to their other leg. Both nurses then grasp the upper part of the slide sheet. Nurse A should say 'Ready, Steady, Go'.
16. Do not lift with the slide sheet.
17. Once in the desired position, ease the patient over to remove the slide sheet.
18. Do not pull the slide sheet out towards the lower end of the bed as this can cause the patient to slide back down the bed.
19. Do not leave a slide sheet under the patient unless it has been assessed as safe.
20. Ensure that the patient is comfortable.
21. Perform hand hygiene.

## Placing a sliding sheet under the patient



*Step 1*



*Step 2*



*Step 3*



*Step 4*

#### 10.4 DEEP VEIN THROMBOSIS (DVT)

- Dehydration and hypotension increase the risk of D.V.T.
- Early mobilisation reduces the risk of D.V.T.

#### PREVENTION OF D.V.T.

1. Teach the patient foot and leg exercises before an operation or period of immobility and encourage exercises at least hourly.
2. Discourage the patient from crossing the legs whilst on the bed.
3. If the patient is unable to do leg exercises, passive leg movements should be performed by nurse or physiotherapist.
4. Deep breathing should be encouraged.
5. Observe the calves for swelling, redness, heat and tenderness-if DVT is present the calf may appear paler than the calf of the other leg.
6. Measure and fit the anti embolic stockings (measure length of leg and width of calf)
7. Subcutaneous heparin may be prescribed as a prophylaxis.

**Note:**

- *Dorsiflexion (bending the feet up and down) and rotation of the feet encourages the lower leg muscles to 'pump' blood in the long saphenous vein, up towards the heart.*
- *Movement of the diaphragm creates a negative pressure in the chest and inferior vena cava, which assists movement of blood towards the heart.*
- *Evidence of DVT is most likely to occur from 48 hours post immobility.*

## 10.5 APPLICATION OF AN ANTIEMBOLIC STOCKING (AES)

1. Prior to application assess if anti embolic stocking may be applied by referring to Antiembolic Stocking Use SOP.
2. Confirm dorsalis pedis and posterior tibial pulse presence (Image 1 & 2)

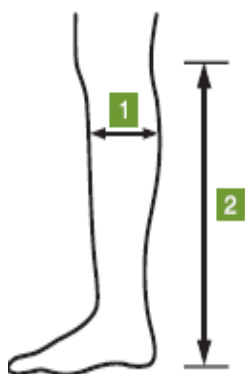


*Image 1 - Dorsalis pedis pulse check*

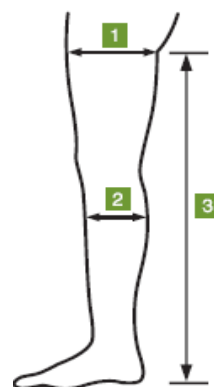


*Image 2 - Medial malleolus pulse check*

3. Measure calf and/or thigh circumference at widest point (ideally should be done standing, early in the morning).
4. For thigh length stockings: buttocks base to heel
  - Measure upper thigh circumference – level 1 in Image 4
  - Measure calf circumference at greatest circumference - level 2 in Image 4
  - Measure leg length from base of heel to gluteal furrow
5. For knee length: heel to behind knee
  - Measure calf circumference at greatest limits – level 1 in Image 3
  - Measure length from base of heel to bend of knee - level 2 in Image 3



*Image 3 - Knee length sizing*



*Image 4 - Thigh length sizing*

6. When thigh circumference is outside manufacturer's specified size range, one is advised to go for knee length stockings.
7. Ensure AES smooth fit: wrinkles will cause constriction and tissue damage.
8. Ensure appropriate AES heel position.

*Note:*

- *AES is to be worn 24/7, if not contraindicated.*
- *Limb should be dry before AES application – talcum powder may be applied sparingly to facilitate application.*
- *AES is to be removed daily to allow skin hygiene and assessment. An absorbable cream may be applied, leaving a drying interval before putting back on.*
- *Each limb should be assessed for:*
- *-Marking/Blistering/Discolouration*
- *-Sensation – Tingling*
- *-Circulation – Discolouration*
- *-Movement – cold/swelling*
- *If patient reports any pain or discomfort: remove AES and report immediately.*
- *In the disposition to development or presence of oedema, re –size every alternate day downsizing where necessary.*

## 11.1 ASSISTING A PATIENT IN A SHOWER

1. Discuss patient's preference for a bed bath or shower.
2. Encourage shower when possible.
3. Help patient to collect clothes and toiletries.
4. Ensure privacy is maintained throughout.
5. Assist the patient in undressing, maintaining dignity of the patient.
6. Observe patient's skin especially the pressure points-note any signs of inflammation, bruising, discoloration or rash.
7. Adjust water flow to be in the right temperature.
8. Encourage patient to do as much as they can themselves.
9. Assist the patient to dry and put on own clothes.
10. Assist the patient to brush or comb hair as required.
11. Assist the patient to clean teeth or dentures as required.
12. Record the procedure in the nursing documentation noting how much assistance the patient required, the patient's state of skin and general condition.

**Note:**

*If patient is left to wash alone, make sure that the nurse call is accessible to be able to call for assistance if needed.*

## 11.2 ASSISTING A PATIENT IN A BED BATH

1. Ensure dignity, warmth and privacy.
2. Assist the patient into a comfortable position.
3. A plastic apron should be worn.
4. Gloves are not indicated unless patient is incontinent or unless required by patient's condition.
5. Assist patient to remove night clothes and cover with a sheet.
6. Assist the patient to wash the face, ears and neck.
7. Wash, rinse and dry the body in a logical order, exposing the part of the body that is going to be washed.
8. The suggested order is arms, chest, abdomen, genital area, legs, feet and then the back.
9. If two nurses are present, one should wash and the other dries the body.
10. As patient is washed observe the skin for redness, any abrasions, rash, dryness or bruising.
11. Assist the patient to put on night clothes.
12. Remove any soiled linen and remake the bed.
13. Assist the patient in mouth care and hair care.
14. Assist patient to sit up in bed or ambulate on an armchair if possible.

### 11.3 ORAL ASSESSMENT AND MOUTH CARE

1. Explain the procedure to gain cooperation and consent.
2. Ask patient to sit upright if possible.
3. Observe the patient's lips, noting whether they are dry or if there is evidence of ulcers, sores, cracks or bleeding.
4. Note whether there is presence of white patches (oral thrush) in the inside of the mouth.
5. Cover the pillow with a towel

#### 11.4 MOUTH CARE FOR A DEPENDENT PATIENT

1. Explain the procedure to gain consent and co-operation.
2. Cover the patient's chest with a towel.
3. Using a toothbrush and toothpaste gently clean the teeth, gums and tongue, taking care not to cause any trauma to the mouth.
4. A mouth wash solution can be used, by dipping foam sticks and gently wipe them around the mouth.
5. Rinse the mouth with water and gently suck to remove excess secretions.
6. Apply a thin layer of petroleum jelly or lip balm if the lips are dry.
7. Remove gloves, apron and perform hand hygiene.

**Note:**

*Dentures should be removed and stored in water in a labeled denture pot, if patient is unconscious.*



Equipment needed for mouth care

Proper mouth care technique

Step 1



Step 2



Step 3



## 11.5 EYE CARE

1. Explain the procedure to gain consent and co-operation.
2. Ensure the patient is in a comfortable position with the head tilted backwards.
3. Open the dressing pack and arrange all equipment on a suitable work surface
4. Pour the saline solution into a gallipot.
5. Put on the gloves.
6. Ask the patient to close their eyes and always inform patient which eye is going to be cleaned first.
7. An infected eye should be cleaned last.
8. Lightly moisten a gauze swab with saline, and swab the lower lid from the nose outwards, ensuring that the swab does not rise above the margin of the lid as this could cause corneal damage.
9. Using a new swab each time, repeat until any discharge or encrustation has been removed.

## 12.1 HAND HYGIENE

1. Hand hygiene is to be performed:
  - a. before patient contact,
  - b. before any clean / aseptic procedure,
  - c. after exposure to body fluids (even if gloves were used),
  - d. after patient contact,
  - e. after contact with the patient's environment.
2. Hands should be cleaned with alcohol hand rub. Washing of hands with plain liquid soap and water is indicated only when the hands are visibly soiled or if the patient cared for has diarrhoea.
3. Remove any rings, jewellery and wrist watches. Long sleeves are to be rolled up.
4. Any cuts or abrasions on the hands should be covered by a waterproof, occlusive dressing.
5. Apply 3mls (2 pumps) of alcohol hand rub to the hands. The alcohol must be applied to all areas and the hands must be rubbed vigorously until it is dry. Alcohol effectively decreases microbial counts in relatively clean hands but is ineffective if used on hands contaminated with body fluids.

**Note:**

*Bars of soap should never be used since these provide an ideal environment for bacterial growth when left in a sink in a pool of water.*

## 12.2 USE OF APRONS

1. Aprons should be worn in all situations where there is direct patient contact or contact with body fluids, bed linen, excreta, clinical waste or items that have been in contact with infectious diseases.
2. The apron should be put on after the hands have been cleansed with alcohol.
3. Yellow coloured aprons are to be used when caring for an infective patient.
4. Perform hand hygiene.
5. Pull the apron over your head, avoid touching your hair and uniform if possible.
6. Tie the apron loosely.
7. To remove the apron pull at the top and the sides to break the neck band and waist tie and fold the apron on itself to prevent the spread of micro organisms.
8. Do not allow your hands to touch the uniform.
9. Discard the apron into domestic bag. Only aprons heavily soiled with blood or body fluids are to be disposed in a clinical waste bag.
10. Apply alcohol hand rub.

### 12.3 USE OF GLOVES (NON-STERILE)

1. Gloves should always be worn for any contact with blood and body fluids as part of standard precautions. Non sterile gloves are also required for procedures with *potential* health care worker exposure to blood or body fluids
2. Gloves should also be worn as part of contact precautions i.e. when in contact with patients who are carriers or infected with multidrug resistant organisms.
3. Hand hygiene should be performed before and after gloves are worn. The use of gloves does not remove the need for hand hygiene.

## 13.1 ASEPTIC DRESSING TECHNIQUE: USING STERILE GLOVES

*Aseptic technique should be performed ideally in a clean and calm environment.*

1. Explain procedure to gain consent and cooperation.
2. Help the client to be in a comfortable position.
3. Administer any analgesia (if needed) and allow enough time to take effect.
4. Perform hand hygiene.
5. Clean the dressing trolley with antiseptic wipes.
6. Place the necessary items in the dressing trolley in the bottom shelves and check their sterility and expiry date.
7. Put on the apron.
8. Apply hand rub.
9. Open carefully the dressing pack, in the top shelf of the dressing trolley using the corners of the paper without touching the inside field and items.
10. Remove the yellow bag and hang it aside the trolley.
11. Place swabs, plastic forceps and tray in order inside the dressings pack without touching them.
12. Pour the solution which is going to be used in the dressing tray without spilling.
13. Open the necessary items needed in the sterile field.
14. Apply hand rub.
15. Remove the dressing. If soiled wear gloves to avoid contact with body fluids.
16. Apply hand rub.
17. Put on the sterile gloves without touching the outside of the gloves.
18. Cleanse the wound rotating the swabs so to ensure that each part of the wound is cleansed with a clean part of the swab.
19. Dry the wound well.
20. Apply primary and secondary dressing if needed.
21. Secure the dressing with adhesive dressing.

22. Inform the patient that the procedure is over.
23. Remove gloves without touching the outside part with hands and discard in yellow bag.
24. Remove the apron without touching the outside part and discard in the yellow bag.
25. Close the dressing pack and discard in the yellow bag.
26. Discard the yellow bag in the yellow bin.
27. Place unused items in their place and if scissors used to be sent for sterilization.
28. Wash hands thoroughly and dry well.
29. Document the procedure performed and wound status.
30. Report any changes and abnormalities

## 13.2 NON-TOUCH/CLEAN DRESSING APPLICATION TECHNIQUE

*For wound dressing change, following the policies of the Infection Control Unit to date no sterile gloves are needed. Wound dressing change can be performed by using the forceps (only) found in the dressing pack. This technique should ideally be performed in clean and calm environment.*

1. Explain procedure to gain verbal consent and cooperation.
2. Help the patient to be in a comfortable position and adjust height of bed/stretchers.
3. Administer any analgesia (if needed) and allow enough time to take effect.
4. Perform hand hygiene thoroughly.
5. Clean the dressing trolley with antiseptic wipes.
6. Place the necessary items in the dressing trolley in the bottom shelves and check their sterility and expiry date.
7. Put on the apron.
8. Apply hand rub.
9. Open carefully the dressing pack, on the top shelf of the dressing trolley using the corners of the paper without touching the inside field and items in the top shelf of the dressing trolley.
10. Remove the yellow bag and hang it aside of the trolley.
11. Place swabs, plastic forceps and tray in order inside the dressings pack without touching them.
12. Place sterile forceps and gauze swabs from the tray to the sterile area without contaminating.
13. Pour the solution which is going to be used in the dressing tray without spilling.
14. Open the necessary items needed in the sterile field.
15. Apply hand rub.
16. Remove the dressing. If soiled use gloves to avoid contact with body fluids.
17. Apply hand rub.
18. Cleanse the wound rotating the swabs so to ensure that each part of the wound is cleansed with a clean part of the swab. Otherwise, clean the wound from inside to the outside area using forceps.
19. Dry the wound well.
20. Apply primary and secondary dressing if needed.
21. Secure the dressing with adhesive drapes.

22. Inform the patient that the procedure is over.
23. Remove the apron without touching the outside part and discard in the yellow bag.
24. Close the dressing pack and discard in the yellow bag in yellow bin.
25. Place unused items in their place and send any items suitable for sterilisation to CSSD.
26. Perform hand hygiene thoroughly and dry well.
27. Document the procedure performed and wound status.
28. Report any changes and abnormalities.

### 13.3 TAKING A WOUND SWAB

1. Label the swab and fill in the request form.
2. Perform hand hygiene using alcohol hand rub. Once dry put on non-sterile gloves.
3. Clean the wound thoroughly with saline before sampling:
4. Clean the wound with a gauze swab soaked in sterile saline, using sufficient pressure but without causing trauma to the wound bed. Starting from the cleanest part of the wound and work towards the areas with slough or necrosis.
5. Then aspirate 50ml of saline into a syringe and use it to irrigate the wound. This is especially in deep or uneven wounds or ulcers.
6. Do not wipe or touch the wound after cleaning with saline
7. Wipe the skin around the wound / ulcer with a 70% alcohol swab. Do not touch the wound with alcohol.
8. DO NOT SWAB SLOUGH / NECROTIC TISSUE but only viable / healthy parts of the wound.
9. The Levine swabbing technique is preferred. Without touching the swab to the wound edges or skin, rotate the tip of the swab over a 1cm square area of viable tissue. Use sufficient pressure to express fluid from within the wound.
10. Place swab back in charcoal transport medium and send to laboratory as soon as possible.

#### 13.4 REMOVAL OF SKIN CLOSURES

*For the removal of sutures / clips following the policies of the Infection Control Unit to date no gloves are needed. However, non sterile gloves can be worn if contact with body fluids might occur.*

1. Explain procedure to gain consent and cooperation.
2. Help the client to be in a comfortable position.
3. Administer any analgesia (if needed) and allow enough time to take effect.
4. Perform hand hygiene.
5. Clean the dressing trolley with antiseptic wipes
6. Place the necessary items in the dressing trolley and check their sterility and expiry date.
7. Go near the client.
8. Put on the apron.
9. Perform an aseptic non touch technique.
10. Apply hand rub.
11. Open carefully the dressing pack without touching the items inside the pack.
12. Open the suture / clip removal pack and dispose carefully in the dressing pack.
13. Apply hand rub.
14. Remove the dressing, observe for any exudate and odour and discard it in the yellow bag.
15. Apply hand rub.
16. Observe the incision site for any signs of inflammation / infection.
17. If inflammation or any exudate is present inform the Nursing Officer and the patient's firm and act accordingly.
18. If incision site is healing well to remove the sutures / clips.
19. The removed suture should have three ends and the knot. The clips are removed by pressing gently in the middle of the clip.
20. Apply a dry dressing on the incision site.
21. Discard the blade in the sharp box or place the clip removal apart to be sent to CSSD.
22. Inform the patient that the procedure is over.
23. Educate the patient when to uncover the wound.

24. Discard the yellow bag in the yellow bin.
25. Perform hand hygiene.
26. Document the procedure performed and wound status.

**Individual Sutures** If removing individual sutures, pick up one of the unused forceps and use it to lift up the suture. In your other hand, hold the scissors or the cutter flat against the skin and slide it under the suture to cut it. The part of the suture that has been lying on the skin must not be drawn underneath the skin and so the place where it is cut is important.

**Continuous Suture** When removing a continuous suture cut the first 'suture' at the end furthest from the knot. Use the forceps to lift the next suture to remove the loose end from under the skin. Cut this suture close to the skin. Repeat the process with all the others, making sure that the part that has been on the skin is not pulled underneath the skin. Never cut both ends of a suture or you will be unable to remove the hidden part underneath the skin.

**Staples** A special instrument is used to remove staples. This should be placed under the centre of the staple and squeezed hard. This bends the staple so that it comes out of the skin easily. The staple can be steadied by holding it with the forceps.

## 13.5 WOUND DRAINAGE

### OPEN SYSTEM

This refers to a hollow tube or corrugated piece of rubber or plastic that is situated in the wound to promote draining into the dressing. If there is large amount of drainage, the end of the drain may be inserted into a stoma bag. This is designed to keep the wound area free from drainage and thus reduce the risk of infection.

### CLOSED SYSTEM

This refers to a system whereby the drain is attached to tubing and a container for the collection of drainage. This means that the system is 'closed' and thus the risk of infection is greatly reduced. Many closed systems incorporate a vacuum to encourage drainage. The bag or bottle should be supported by the attachment to the bed or patient's clothing to prevent pulling and accidental dislodgement of the drain. Asepsis must be maintained when changing the bag or bottle.

### 13.6 CHANGING A VACUUM DRAINAGE BOTTLE (V.D.B.)

1. Explain procedure to gain consent and cooperation.
2. Help the patient to be in a comfortable position.
3. Perform hand hygiene.
4. Clean the tray with antiseptic wipes.
5. Place the necessary items in the tray.
6. Go near the patient.
7. Put on the apron.
8. Perform an aseptic non touch technique.
9. Apply hand rub.
10. Put the gloves on.
11. Clamp the drainage tube with the clamps found in the tube.
12. Remove the sterile VDB from its package.
13. Carefully remove the drainage tube from the bottle without touching the tip of the VDB.
14. Push the tubing firmly into the sterile VDB and release the vacuum clamp.
15. Observe that the vacuum of the new VDB was kept.
16. Place the VDB in secure place so to avoid pulling.
17. Inform the client that the procedure is over.
18. Place the VDB in a flat surface and observe and monitor its volume.
19. Discard the 'old' VDB in the yellow bag / bin.
20. Wash and dry hands thoroughly.
21. Document amount and type of drainage.

### 13.7 REMOVAL OF DRAIN

*For the removal of drain following the policies of the Infection Control Unit to date no sterile gloves are needed.*

1. Explain procedure to gain consent and cooperation.
2. Help the client to be in a comfortable position.
3. Administer any analgesia (if needed) and allow enough time to take effect.
4. Apply hand hygiene.
5. Clean the dressing trolley with antiseptic wipes.
6. Place the necessary items in the dressing trolley.
7. Gather the equipment, check the sterility and expiry date of all equipment and solutions and place on the bottom of the trolley.
8. Go near the patient.
9. Put on the apron.
10. Perform an aseptic non touch technique.
11. Apply hand rub.
12. Open carefully the dressing pack without touching the items inside the pack.
13. Open the suture removal pack and dispose carefully in the dressing pack.
14. Apply hand rub.
15. Remove the dressing, observe it and discard it in the yellow bag.
16. Apply hand rub.
17. Observe the incision site for any signs of inflammation / infection.
18. If inflammation or any exudate present, inform the Nursing Officer and the patient's firm and act accordingly.
19. Cleanse and dry the drain site in order to visualise the suture knot.
20. Place swab under the tubing.
21. Lift up the knot of the suture with the sterile forceps and cut the suture with the blade.
22. The removed suture should have three ends and the knot.
23. Inform the patient that the drain will be removed and advise the patient to inhale and exhale slowly.

24. Pull slowly the drain and observe the colour and amount of the output.
25. Discard the drain in the yellow bag.
26. Discard sharp instruments in a sharp container.
27. Place swab on the drain site and press until bleeding / drainage is minimal.
28. Cover the drain site with a sterile dressing.
29. Inform the client that the procedure is over.
30. Remove the gloves and apron and discard.
31. Discard the yellow bag in the yellow bin.
32. Perform hand hygiene and dry hand thoroughly.
33. Document the performed procedure and the output of the drain removed.

**Note:**

- *Clamping the tubing prevents suction during removal, which may be painful for the patient.*
- *If the drain site appears inflamed or purulent, a swab for culture and sensitivity should be taken.*
- *The bottle, once clamped should be discarded in the yellow clinical waste bag. It should not be emptied because of the risk of splashing and contact with blood.*

- Pain is an uncomfortable feeling in the body which often indicates that something is wrong. It can range from mild and occasional to severe and continuous.

### ACUTE AND CHRONIC PAIN

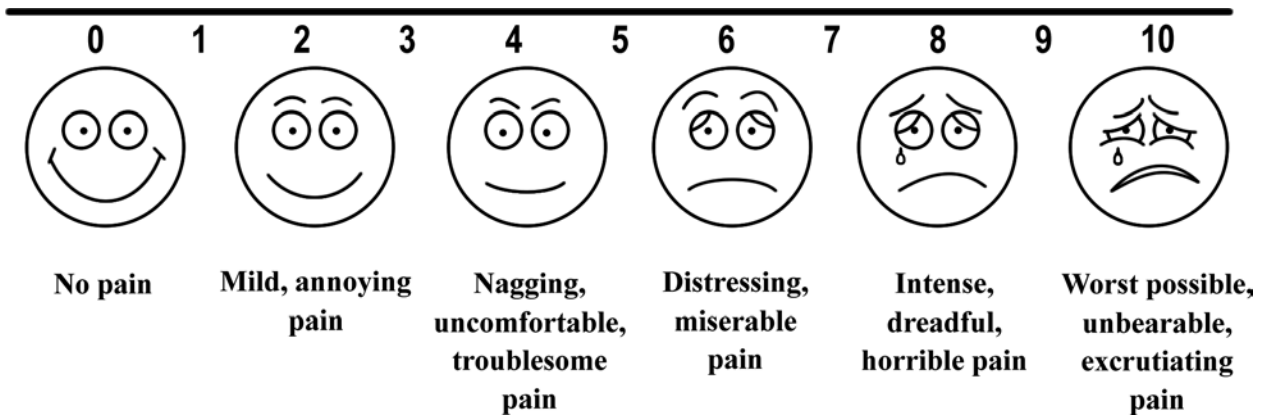
Pain might be caused by many events or circumstances, such as tissue damage due to injury, disease or surgery. Acute pain begins suddenly and is usually sharp in quality. On the other hand, chronic pain persists despite the fact that the injury, disease or surgery site has healed.

### PAIN ASSESSMENT

1. Effective pain assessment is a fundamental part of nursing care. The basics of assessment of pain are the same as the assessment of other medical complications.
2. As pain is primarily a subjective experience, the patients themselves are best placed to assess their own pain accurately.
3. Frequency of pain assessment depends on severity of pain.
4. Pain assessment should include the location, duration, intensity and characteristics of the pain. Pain is usually described as 'sharp', 'dull', 'intermittent' or 'continuous' and patient is asked for how long pain has been present.
5. The underlying condition of patient has to be taken into consideration. For example, acute pain is often an indicator of disease or injury, which following treatment can be resolved. Conversely, pain may indicate worsening of condition and overall goal of treatment would be palliative rather than curative.
6. It is important to establish whether pain is acute or chronic as this may influence choice of treatment.
7. Determining factors that precipitate or exacerbate the pain facilitates diagnosis, be it mobility, eating, drinking, time of day etc.
8. Related symptoms to pain such as nausea, vomiting, breathlessness or sleeplessness should be identified.
9. The result of the pain assessment should be recorded in the nursing report.
10. There are various self-report pain assessment tools which are simple to use and give a clear view of pain intensity. These scoring cards can be provided to the patients to record the

different levels of pain that they feel. Therefore, the nurses would be provided with indicators to record the findings which can indicate pain. These include:

*Categorical Rating Scale (CRS)* using 'none', 'mild', 'moderate', 'severe', 'very severe' and 'worst pain imaginable'.



*Visual Analogue Scale (VAS)* using 0-10 where 0 is 'no pain' and 10 is 'severe pain'.

### 15.1 CYTOTOXIC DRUGS (CHEMOTHERAPY)

- Chemotherapy can be given in wards, clinics or theatres.
- Double-checking of chemotherapy is required.
- All chemotherapy is to be administered either by a registered nurse or a doctor.
- Staff administering chemotherapy should know the potential: immediate, short and long term systemic and local side effects.

### 15.2 GENERAL SAFETY MEASURES

- Always read instruction labels on chemotherapy infusion bags.
- Always wear Personal Protective Equipment when handling cytotoxic drugs for any route of administration: ***gown / apron + 2 pairs of non-powdered gloves +/- face mask.***
- Dispose of all equipment which came into contact with cytotoxic drugs in the appropriate cytotoxic bin.
- Pregnant women should avoid contact with chemotherapeutic drugs.

### 15.3 EQUIPMENT REQUIRED

All areas in which cytotoxic drugs are administered must have the following equipment:

- Emergency bell
- CPR trolley
- Extravasation kit
- Spill kit
- Eye wash / access to running water
- Electro-mechanical equipment (pumps) which are functional, validated and undergo regular maintenance

#### 15.4 PREPARING TO GIVE CYTOTOXIC MEDICATION

1. Check that the patient has been fully informed and has given written consent to receive the proposed cytotoxic treatment.
2. Check the prescription is dated correctly, signed, written clearly and is in accordance with the chemotherapy protocol.
3. Check pre-chemotherapy investigations have been completed and results reviewed by respective doctor.
4. Be aware of the side-effects of all the drugs to be administered.
5. Check that appropriate anti-emetics have been prescribed and given.
6. Ensure premedication or hydration have been prescribed and administered.
7. If the injection or infusion has been stored in the refrigerator, it must be allowed to reach room temperature before administration. This reduces the risk of infusion bags splitting during insertion of the giving set, and also to reduce venous spasm.
8. Explain the procedure to the patient.
9. If the infusion is sensitive to light, the giving set needs to be covered in foil or a light blocking giving set is used.
10. Two qualified nurses need to check the following:
  - a. Patient's name and ID number correspond with the ID bracelet, drug administration chart and pharmacy. Label attached to infusion bag or syringe containing chemotherapy.
  - b. Check expiry date and time of drug.
  - c. Calculate whether the drug will be administered within the expiry date.
  - d. Check the route of administration.
  - e. Check compatible fluid to prime the IVI drip set before and after the administration of the chemotherapy.
  - f. Flush appropriately before and after administration.

**Check that administration line is compatible with chemotherapy drug. Some drugs require specific lines.**

## 15.5 ADMINISTRATION OF CHEMOTHERAPY

Chemotherapy can be administered via many routes, namely: oral, intravenous, subcutaneous, intramuscular, intrapleural, intravesical, intrathecal, intraperitoneal and topical. The procedure for handling chemotherapy via the oral, intravenous and intravesical routes is described below. Other procedures can be obtained from the haematology nurse specialist.

### 15.6 ORAL ADMINISTRATION

1. Oral cytotoxic preparations can be potentially hazardous if handled carelessly.
2. Wear double non-powdered gloves and use a 'non-touch' technique.
3. Work below eye level.
4. Tablets should never be crushed and capsules should not be opened by nurses. Alternate formulations should be sought from pharmacy.
5. Cut the foil around the tablet and give it to be opened by the patient. If the tablet or capsule comes in a blister or foil pack, the dose units should not be pushed out of the original packing until just before swallowing. This has a dual purpose: it reduces manipulation and contact with the cytotoxic drug; as well as reduces the risk of reaction if the drug is sensitive to light.
6. In case of no exterior packaging, lift a tablet from the container using a plastic spoon and give it to the patient to be taken immediately. Throw away spoon and pill container in cytotoxic bin.
7. After handling an oral cytotoxic drug, perform hand hygiene.
8. Patients should swallow tablets or capsules whole and not chew. Patients and carers should be advised to wash their hands thoroughly after taking or administering chemotherapy.
9. If a tablet is dropped, pick it up wearing gloves, put it in a plastic bag and dispose in the cytotoxic container. Damp dust the area with a wet towel to ensure all fragments are collected and dispose of the towel as cytotoxic waste.
10. If an oral preparation is spilt, soak up the spill and then clean the area immediately using soapy water and wipes or paper towels. Dispose in cytotoxic bin.
11. Dispose all spoons, medicine pots, oral syringes used to administer cytotoxic treatment in the cytotoxic bin.

## 15.7 INTRAVENOUS ADMINISTRATION

Cytotoxic drugs should not be given if there is any doubt regarding the safety of the venous access devices. Intravenous devices can be Central Vascular Devices or Peripheral Venous Cannula (PVC).

## 15.8 CENTRAL VASCULAR ACCESS DEVICES (C.V.A.D.S.)

The care and maintenance of C.V.A.D.s should follow local hospital C.V.C. policy.

## 15.9 PERIPHERAL VENOUS CANNULA

- A cannula which preserves vein integrity and cause least pain to the patient is the most recommended. The cannula needs to be fresh and BACKFLOW present before giving any chemotherapy.
- When choosing the site of the cannula, its size and the size and condition of available veins together with the chemotherapeutic drug to be administered, need to be considered. The following need to be considered:
  - The purpose of the cannula (a large vein gives a high flow rate and more haemodilution).
  - Small visible but impalpable veins are not suitable for cannulation to administer chemotherapy.
  - Cannulation in lower limbs should be avoided in adults.
  - Avoid a dominant arm.
  - Avoid joint flexion, cubital fossa, sites distal to recent cannulation, proximal to skin lesions or areas of lymphatic impairment following surgery or radiotherapy.

## PROCEDURE

1. Perform hand hygiene.
2. Put on apron and first pair of gloves.
3. Using aseptic non-touch technique aspirate C.V.A.D. or P.V.C. with 5 mls syringe for backflow.
4. If backflow present and not sluggish, flush C.V.A.D. or P.V.C. with 10 mls of 0.9% saline.
5. If flow is sluggish, re-site cannula and call Medical Officer.
6. Prime I.V. set with priming fluid, attach to volumetric or syringe pump and connect to patient.
7. Inspect sealed bag to ensure no spillage has occurred.

8. Shake sealed bag vertically downwards so that infusion bag with chemotherapy falls to the lowest part of the bag.
9. Carefully with the scissors cut the top part of the sealed bag. Make sure not to puncture the infusion bag.
10. Put on second pair of gloves.
11. Exchange priming fluid with cytotoxic infusion fluid at waist level to minimise the risk of personal contamination in the event of spillage. Be careful not to puncture the bag. This should be carried out over a clean tray or a yellow clinical waste bag. It is recommended that the bag is in a horizontal position and the port through which the set is placed is not kinked. This reduces the risk of the giving set piercing through the port and causing leakage.
12. Hang infusion bag.
13. Remove second pair of gloves and load the pump with the volume and the time of the infusion fluid.
14. Administer the drugs in the correct order: vesicants first. Sequencing order should be marked on the treatment chart also.
15. After finishing, exchange cytotoxic infusion bag with priming fluid and prime I.V.I. set and cannula.
16. Through all consumables used in the cytotoxic bin.
17. Always maintain a closed-system.
18. Perform hand hygiene.
19. Monitor the patient for leakage at the cannula site, venous irritation, extravasation, flare, allergy or anaphylaxis.
20. Record the administration in the prescription sheet and nursing notes.
21. In the case of bolus injections, do not expel air from the syringe. If air is in the syringe, hold it in such a way that the air is up near the plunger when the entire drug is expelled and the air is reached.
22. If a special I.V.I. set or filter is required e.g. for Paclitaxel, use only those recommended.

## 15.10 INTRAVESICAL INSTILLATION

Mitomycin, Adriamycin, B.C.G. and occasionally Epirubicin can be given via the intravesical route. Careful consideration must occur if the patient has heavy haematuria, urinary tract infection or is immunosuppressed due to the increased risk of side-effects.

### PROCEDURE WITH A CATHETER IN SITU

1. Perform hand hygiene and clean dressing trolley.
2. Ensure written consent has been obtained.
3. Ensure patient privacy and advise patient to report any local or systemic symptoms.
4. Advise the patient to wear a hospital gown.
5. Assist patient to assume a recumbent or semi-recumbent position and expose the catheter.
6. Lay an incontinence pad under the catheter and over the thighs.
7. Put on plastic apron and safety glasses.
8. Thoroughly wash hands prior to glove application.
9. Open and assemble the sterile products and don one pair of sterile gloves.
10. If an irrigation bag is in use, disconnect the fluid and spigot the catheter inlet.
11. Clamp the catheter.
12. If necessary, disconnect the drainage bag from the catheter and document the volume.
13. Put the catheter valve in a closed position to provide a means of blocking the catheter and facilitate drainage after the recommended time.
14. Connect the bladder syringe securely to the catheter, release the clamp and instil the drug slowly into the bladder. Rapid instillation can be painful, especially if the bladder wall is scarred from previous surgery.
15. Check that there is no leakage from the catheter.
16. Disconnect the syringe using a gauze swab to absorb any drops left on the end of the catheter valve.
17. Retain drug in the bladder for one to two hours.
18. Clean all contaminated disposables.
19. After the required time, wash hands thoroughly.

20. Put on disposable gloves, apron and safety glasses.
21. Attach a urine drainage bag. Unclamp the catheter and allow to drain for 15minutes.
22. Remove the drainage bag and attach a new one if the catheter is to remain in situ.
23. If the catheter is to be removed, deflate the catheter's balloon and remove the catheter completely, ensuring disposable sheet under the meatus of the urethra.
24. The contents of the drainage bag (urine + drug) should be emptied in the sluice followed by 2 flushes. A strong bleach based detergent should be poured into the sluice after voiding for patients who have received BCG therapy. This bag should then be disposed in the cytotoxic bin.

#### PROCEDURE WITHOUT A CATHETER IN SITU

1. Perform hand hygiene and clean dressing trolley.
2. Ensure written consent has been obtained.
3. Ensure patient privacy and advise patient to report any local or systemic symptoms.
4. Advise the patient to wear a hospital gown.
5. Assist patient to assume a recumbent or semi-recumbent position and expose the catheter.
6. Lay an incontinence pad under the catheter and over the thighs.
7. Catheterise patient.
8. Thoroughly wash hands.
9. Put on safety glasses.
10. Open and assemble the sterile products and don one pair of sterile gloves.
11. Connect the bladder syringe securely to the catheter, release the clamp and instil the drug slowly into the bladder. Rapid instillation can be painful, especially if the bladder wall is scarred from previous surgery.
12. Clamp the catheter to prevent the drug flowing back.
13. Remove the catheter.
14. Throw all waste in the cytotoxic bin.
15. Advise the patient to retain the drug for 1-2 hours.
16. After this time, advise to go to the bathroom to void the urine.

17. Men must urinate sitting down to minimise splashing. The toilet needs to be flushed twice with the lid closed to minimise splashing.
18. Advise patients to wash genitalia thoroughly with plenty of soap and water and wash their hands afterwards to minimise potential for skin problems following contact with cytotoxic drugs.
19. Advise patient to maintain normal skin hygiene after initial emptying of the bladder.
20. Patients who have received BCG treatment should be advised that a strong bleach based detergent should be poured into the toilet after voiding.

## 15.11 SUBCUTANEOUS CHEMOTHERAPY

### PRE-TREATMENT ASSESSMENT

Prior to the administration of chemotherapy assess patient for:

- Baseline vital signs
- History of allergies
- Extravasation
- Lab values (CBC, LFT's, creatinine, etc.)

### CHEMOTHERAPY VERIFICATION

- Verify that the consent has been obtained
- Treatment protocol
- Treatment chart
- Assessment form
- Toxicity criteria (in between cycles)

### EQUIPMENT

- Personal protective equipment (double gloves, apron)
- Non-permeable plastic backed absorbent pad
- Clean impermeable tray
- 26 gauge needle for administration
- Skin antiseptic
- Cytotoxic bin
- Other equipment: CPR trolley, Spill kit, running water and emergency bell.

## PROCEDURE

1. Inspect all chemotherapy admixtures for expiry date, particulate matter, signs of incompatibility, degradation or contamination before administration to the patient.
2. Choose a quiet and safe work environment. Ask the patient to sit down or lie down.
3. Verify the full name and patient identification number on the chemotherapy drug label matches the full name and patient identification number on the patient's identification armband and treatment chart.
4. Chemotherapy stored in the refrigerator should be removed 30 minutes prior to administration, to facilitate patient comfort.
5. Ensure that a physician is accessible in case of an emergency.
6. Apply PPE.
7. Prepare work area by placing a plastic backed absorbant pad on the work surface (plastic tray); ensure cytotoxic sharps container is within easy reach for disposal of equipment.
8. Inspect sealed bag (containing the chemotherapy syringe) before opening to ensure there is no spillage within the bag.
9. Select a suitable site for the injection, and prep skin with approved antiseptic swab; allow to dry. Ensure the site is rotated each time if repeated administration is required.
10. Remove the chemotherapy syringe from the protective plastic bag onto non-permeable plastic backed pad.
11. Carefully remove the connector top from the Luer-lock syringe and attach an appropriate needle (e.g. 26-gauge needle with a needle length of 8mm). Ensure needles for administration are secure, taking care to minimize risk of spillage on the skin.
12. For subcutaneous injections, use a pinch technique, administer the injection at a 45 or 90 angle. Aspiration is not required prior to the injection of the drug.
13. Following injection, leave the needle in place for a few seconds then remove slowly to minimize drug leakage from injection site.
14. Remove the syringe and needle. Do NOT recap the needle; ensure safety device is engaged before disposal.
15. Dispose in the cytotoxic sharps container.
16. Following administration, if needed, place gauze over site until bleeding or weeping of the agent has ceased.
17. Cover with occlusive dressing or bandage if necessary.
18. If further injections are required, rotate the site of administration and maintain record of administration sites.

19. Ensure all potentially contaminated materials are placed on the protective work surface. Roll the plastic backed pad with contents, place in the appropriate cytotoxic waste container.
20. Remove PPE (including gloves) and discard into appropriate cytotoxic waste container.
21. Wash hands.
22. Document medication administration and injection site.

### 15.12 INTRAMUSCULAR CHEMOTHERAPY

Same equipment as for subcutaneous administration but use a 22 or 27 gauge needle.

#### PROCEDURE

1. Similar to subcutaneous administration, but instead of using a pinch technique, use the Z-track technique. This technique involves displacing the skin and subcutaneous layer in relation to the underlying muscle so that the needle track is sealed off before the needle is withdrawn, therefore minimising reflux.
2. Remove the syringe and needle and cover the site with gauze, ensuring there is no leakage from the site.

### 15.13 DISPOSAL OF CYTOTOXIC WASTE

**Disposable equipment**            Gloves, aprons, infusions, giving sets, sharps etc. should be disposed of in the cytotoxic bin.

**Non-disposable equipment**    Plastic or metal trays should be rinsed with cold water (to remove traces) and then washed with detergent and hot water.

**Unused oral doses**            Tablets that have been dropped, loose tablets or capsules should be disposed of in cytotoxic bin. Oral liquids should be left in medicine container and then disposed of in cytotoxic container.

## 15.14 DISPOSAL OF PATIENT WASTE / BODY FLUIDS

Patient waste e.g. urine, faeces, vomit, blood etc. may contain high concentrations of cytotoxic drugs or active metabolites both during administration and up to 7 days after treatment has finished. Particular care should be taken with patients receiving high dose chemotherapy or intravesical treatment. Staff handling patients' waste should take the required precautions to limit exposure and ensure absorption does not occur.

Precautions to take:

1. Wear gloves and protective apron, and +/- face mask.
2. Double flush the sluice after emptying potentially cytotoxic contaminated matter from bedpans, catheters, dialysis bags etc. Bedpans should be put through a bedpan washer twice at high temperature.
3. Soiled bed linen should be treated as infected linen and handled, bagged and sent to hospital laundry similarly as what is done for infected linen.
4. Men are advised to void sitting down to minimise splashing.
5. Following voiding both men and women should close the toilet lid (to minimise splashing) and flush the toilet twice. a strong bleach-based detergent should be poured into the toilet after voiding, for patients who have received intravesical BCG therapy.
6. Advise patients to wash hands thoroughly after using the toilet.

## 16.1 RECOGNITION OF CARDIO RESPIRATORY ARREST WITH NO SIGNS OF LIFE

1. Check for breathing and assess carotid pulse simultaneously.
2. If no signs of life present namely,
  - a. Lack of purposeful movement
  - b. Lack of normal breathing
  - c. Lack of coughing
  - d. *Or in doubt* start cardio respiratory resuscitation (C.P.R) immediately.
3. Shout for help and ask a colleague to call C.P.R. team on 1900.
4. If alone, leave the patient to get help and equipment.

## 16.2 CHECKING A PATIENT FOR A RESPONSE: SHAKE AND SHOUT

### IF RESPONSIVE- IF A PULSE OR OTHER A SIGNS OF LIFE ARE PRESENT

1. Call immediately for an emergency medical assessment.
2. While waiting for the team, assess the patient using the Airway, Breathing, Circulation, Disability, Exposure sequence.
3. Give the patient oxygen, using pulse oximetry to guide amount and extent of oxygen therapy.
4. Attach vital signs monitor and record readings.
5. Establish a reliable venous access.
6. Prepare for handover to summoned emergency team using the Situation Background Assessment Recommendation acronym.

*N.B. Patient may be at high risk of further deterioration and cardiac arrest and needs continued observation until the team arrives.*

### IF UNRESPONSIVE- NO PULSE AND NO SIGNS OF LIFE ARE PRESENT:

1. Assess **A**irway, **B**reathing and **C**irculation.
2. **N.B.** Agonal breathing is common in the early stages, (occasional gasps, slow laboured or noisy breathing) but should not be mistaken as a sign of life.
3. If not already done, call for help.
4. Put patient in supine position.
5. Take no more than ten seconds to determine whether patient is in cardiac arrest.
6. Open airway using head tilt chin lift.
7. If spinal chord intactness is in doubt, establish a clear upper airway by using jaw thrust or chin lift, in combination with manual in line stabilization (M.I.L.S.).
8. If life - threatening airway obstruction persists despite effective application of jaw thrust or chin lift, add incremental amount of head tilt chin lift until the airway is open. (***Establishing a patent airway, oxygenation and ventilation takes priority over concern about a cervical spine injury***).
9. If there are no signs of life, no pulse, or if there is any doubt, start C.P.R. immediately.

**Note:**

***Diagnosing cardiac arrest can be difficult. If unsure, do not delay starting C.P.R; the patient is far more likely to die if there is a delay diagnosing cardiac arrest and starting C.P.R***

## IF A PULSE OR OTHER SIGNS OF LIFE ARE NOT PRESENT

1. Shout for help and ask a colleague to call C.P.R. team on 1900.
2. If alone, leave the patient to get help and equipment.
3. Till C.P.R team comes:
  - a. Place the heel of one hand in the centre of the chest with the other hand on top.
  - b. Ensure high quality chest compressions
  - c. Depth 5-6 cm
  - d. Rate of 100 – 120 compressions / minute
  - e. Allow the chest to recoil completely after each compression
  - f. Take approximately the same amount for compression and relaxation
  - g. Minimise any interruptions to chest compression (hands off time)
  - h. Do not feel for pulses to assess the effectiveness of compressions.
  - i. Each time compressions are resumed, place your hands without delay in the centre of the chest. To ensure effectiveness of chest compressions, the person delivering them should be, when possible, relieved with minimal interruption every two minutes.
  - j. Use whatever equipment is available immediately for airway and ventilation, namely with the use of oral airway, bag mask amongst others, including supplemental oxygen.
  - k. Use an inspiratory time of about one second and give enough volume to produce a visible chest rise.
  - l. Avoid rapid or forceful breaths.
4. When patient's trachea has been intubated, continue chest compressions uninterrupted (except for defibrillation or pulse checks when indicated).
5. When defibrillator, with A.E.D. facility, arrives / is available, apply self adhesive defibrillation electrodes while continuing with chest compressions and following the audiovisual prompts.
6. Continue resuscitation until the C.P.R team arrives or patient shows signs of life.
7. In preparation of the C.P.R team arrival, lay out by the patient's bedside / event location, the prepared pre packed consumable and instrument trays from the lower drawer of the emergency trolley.

8. Prepare common drugs used in such events from the emergency trolley (pre filled adrenaline, amiodarone, atropine).
9. Check rhythm every two minutes, which is approximately five 30:2 compression to ventilation cycles.

#### IF NO BREATHING BUT PULSE IS PRESENT

1. Ventilate chest with bag valve, checking pulse every ten breaths (about every minute).
2. Ensure patient is warm and well perfused with normal capillary refill: if in any doubt chest compressions are to be started.
3. A patient in respiratory arrest will develop cardiac arrest if not treated rapidly and effectively.

*Note:*

- *The exact sequence of actions after in hospital cardiac arrest depends on the location, skills, number of first responders and available equipment.*
- *Give high quality chest compressions with a depth of 5-6 cms, at a rate of 120/minute, allowing complete recoil between compressions.*
- *Minimise interruptions to chest compressions –plan beforehand to ensure continuity between interventions.*

Lumbar puncture is the most common method of obtaining cerebrospinal fluid (C.S.F.) for analysis. It is contraindicated in patients who have uncorrected coagulopathy (I.N.R. should be below 1.4), low platelets count, has a skin infection at the site of the lumbar puncture and a raised intracranial pressure (I.C.P.).

1. Explain the procedure to the patient.
2. The patient is normally given local anaesthetic in the area where the spinal needle is going to be inserted. Reassure the patient if he / she is conscious.
3. Position the patient for the procedure as directed by the doctor performing the procedure. The patient is usually placed in a flexed position with the knees drawn as close to the chest as possible. If particularly very obese, the patient may be placed in a sitting position with the head, neck, and spine flexed forward and the legs dangling over the side of the bed.
4. Continue to support, encourage and observe patient throughout the procedure.
5. Assist the doctor as required to perform the lumbar puncture.
6. When the needle is withdrawn, apply pressure over the lumbar puncture site using a sterile topical swab.
7. When all leakage from the puncture site has ceased, apply a plaster dressing.
8. Make the patient comfortable. The patient should lie flat or the head should be tilted slightly downwards for a period of up to 24 hours (according to doctor's instructions).
9. Observe patient for leakage from puncture site, headache, backache, vital observations and neurological observations.
10. Encourage a fluid intake of two to three litres in 24 hours.
11. Report every abnormal observation to the doctor and write in the nursing report document.
12. Under normal circumstances, THREE MSU bottles samples containing C.S.F. are sent for CYTOLOGY (pink form), BIOCHEMISTRY (pink form) and CULTURE & SENSITIVITY (green form).

**Note:**

- *As soon as these are available send them to the laboratory for analyses.*
- *Usually, their results are urgently required. Therefore, the laboratory technician on call has to be informed through hospital operator (dial 9) in order to come to the hospital to analyse them as soon as possible.*

**18.1 ADMINISTERING MEDICATION AND / OR STARTING I.V. INFUSION VIA A CENTRAL VENOUS CATHETER (C.V.C.)**

An aseptic non-touch technique (ANTT) should be followed throughout.

1. Perform hand hygiene.
2. Clean tray with disinfectant surface wipe and wait for it to dry.
3. Collect and check all equipment for procedure in a clean area
4. Clean hands again
5. Put on apron and non-sterile gloves
6. Prepare equipment using non-touch technique
7. Withdraw 0.9% saline flush and cover filled syringe with needle
8. Withdraws IV drugs and cover filled syringe with needle
9. Go to patient. Change gloves if need to expose IV site or touch equipment
10. Clean the injection hub (from the outside) using friction and twisting motion for 15 seconds with 2% chlorhexidine in 70% alcohol wipe.
11. If not using a needleless hub, clamp lumen prior to disconnecting hub so as to reduce risk of air embolism. (If CVC lumen is closed with a needle-less hub this step can be skipped).
12. If administering through an unused lumen, aspirate 2-3mls of blood until blood is withdrawn. Throw away this syringe.
13. Administer the medication or commence the infusion as prescribed.
14. Flush and lock the line gently using 5 ml of 0.9% Saline (if lumen not already in use).
15. Close lumen with a new hub (If CVC lumen is closed with a needleless hub this step can be skipped).

## 18.2 CHANGING A CVC DRESSING

### EQUIPMENT NEEDED:

- Sterile dressing pack
- 2% Chlorhexidine in 70% alcohol solution
- Non sterile gloves
- Sterile transparent CVC dressing
- Alcohol hand rub

### PROCEDURE

1. Perform hand hygiene.
2. Remove dressing and discard (Wear non-sterile gloves if dressing is visibly soiled).
3. Perform hand hygiene again. Open sterile dressing pack on a clean surface.
4. Using an aseptic non-touch technique clean skin around CVC entry point with gauze swab soaked in 2% chlorhexidine in 70% alcohol. Remove any dry blood debris.
5. Using a new gauze swab soaked in 2% chlorhexidine in 70% alcohol wipe clean the CVC away from the entry point along one of the lumens. Cleanse each lumen using a separate wipe for each until you reach end of the lumen. If a 3-way tap is attached cleanse it as well with the 2% chlorhexidine in 70% alcohol solution.
6. Allow disinfectant to dry well.
7. Apply sterile dressing. Label dressing with date when changed and initials.
8. Perform hand hygiene.
9. Document change of dressing in the 'Daily CVC review form'.

### 18.3 FREQUENCY OF CVC IV ADMINISTRATION SET CHANGES

- Administration sets used for delivering intravenous fluids and medications continuously need not be replaced more frequently than 96 hour intervals unless they become disconnected.
- Burettes used intermittently to administer medications must be changed every 24 hours.
- Administration sets used for total parenteral nutrition infusions should be changed every 24 hours.
- Intravenous tubing used to administer Propofol infusions need to be changed every 6-12hrs due to the high lipid content of the drug.
- All IV infusion sets and lines must be labelled with date when changed.
- Needleless hubs should be changed every 5 – 7 days. Other hubs need to be changed after each use.

1. Once the patient is declared dead by medical officer and is not for post mortem or further examinations, the nurse can proceed with the shrouding process according to religious tradition. If in doubt, always consult relatives, if present, as some religions have particular rites. The time and date of death should be written on medical notes.
2. Simultaneously inform relatives if not already informed and ask them to bring clothes for shrouding.
3. Make sure that the area is screened to protect dignity and privacy of body.
4. Lay body in supine position. Support the jaw by placing a pillow on the chest underneath the jaw and close eyelids.
5. Drain the bladder by pressing on the lower abdomen. Remove any dressings, nasogastric tubes, urinary catheter, infusion pumps etc., unless otherwise stated. If tubes are required to be left in position, they may be cut and spigotted. Cover them with an appropriate dressing and secure with tape (as in need for an autopsy).
6. Wash the body, unless requested not to because of religious reasons. Clean nails, nostrils, ears and mouth.
7. Shave males normally clean-shaven.
8. Pack orifices: mouth nostril and rectum with cotton wool as in line with the religious rites.
9. Replace any dentures if possible.
10. Re-dress any wounds, secure dressing with tape or loose bandage to contain further leakage from wound sites.
11. Put personal clothing as requested by relatives unless requested to do otherwise.
12. Put a name tag including; correct name and identification number of body, and name of the ward to ensure correct and easy identification of the body at the mortuary.
13. Cover the body with a white sheet. Avoid covering the face as some people do not like this.

14. Allow some time for the relative to spend some minutes near the body, when present.
15. Request the porters to transport the body to mortuary.
16. Record demise on nursing notes, including time, date of death, certification of death and religious assistance given.
17. Give personal property to relatives.
18. Contact Firm to sign certificate of the cause of death and transfer patient's records to Medical records appropriately.

## Chapter 20 ACCESSING, DEACCESSING AND CARE OF TOTALLY IMPLANTED VENOUS ACCESS DEVICE (TIVAD/PORT-A-CATH)

### ACCESSING THE TIVAD

1. **Only nurses who have TIVAD certification should insert and remove non-coring needle (Gripper/ Huber Needle) from a TIVAD.**
2. Check previous documentation sheets in patient notes. These will indicate the needle size to use and if there are any TIVAD troubleshoots.
3. Inform the patient of the procedure you are about to perform, to gain consent and cooperation.
4. Perform hand hygiene using alcohol hand rub for 20 seconds.
5. If patient has applied local anaesthetic cream, remove transparent dressing and wipe it off. (If patient wants to use local anaesthetic cream please see note).
6. Ensure easy access to the TIVAD by removing any clothing that may contaminate the port site once cleaned.
7. Observe site around the TIVAD, for redness, inflammation, and oedema. Ask patient if there was pyrexia, tenderness or pain and discomfort at site. If any of these signs and symptoms is present, do not access the TIVAD and consult with a doctor. Record any actions taken on documentation sheet.
8. Wipe the trolley with a large universal disinfectant wipe and allow to air dry.
9. Perform hand hygiene using alcohol hand rub for 20 seconds and wear sterile gloves.
10. 2nd nurse opens TIVAD Access Pack, that consists of the following:
  - i. Sterile gloves (x 3 different sizes)
  - ii. Plastic apron (x1)
  - iii. Sterile Dressing pack (x1)
  - iv. 3 mls 2%chlorhexidine in 70% alcohol applicator (x1)
  - v. 10ml luer lock syringes (x5)

- vi. Sterile vacutainer set (x1)
- vii. Non coring needles (x2 different sizes)
- viii. Central venous line dressing (x1)
- ix. Blunt filter needles (x2)
- x. Clinell wipes (x2)
- xi. Small plaster dressing (x1)
- xii. 10units/ml Heparin sodium (5mls each x1)
- xiii. 0.9%sodium chloride (10mls each x3)
- xiv. TIVAD Documentation Sheet

**Always** check package for damage and expiry date. **Unused items** should be returned to be re-packed.

11. 2nd nurse should help to keep clothing off the entry site and open up the equipment needed on your sterile field.
12. Clean the TIVAD site (area of around 15 by 15 cms) with the 3 mls 2% chlorhexidine in 70% alcohol applicator using firm repeated up and down, then back and forth strokes for 30 seconds over the port site. Allow skin to air dry naturally.
13. Fill two 10 mls luer-lock syringes with 0.9% sodium chloride and one 10 mls syringe with 5 mls hepsal using a blunt filter needle.
14. Prime the non-coring needle with 0.9% sodium chloride, clamp the tubing and apply hub.
15. Hold the grip section of the non-coring needle. Remove the needle guard.
16. Locate and firmly anchor the sides and bottom of the TIVAD between your fingers and thumb taking care not to touch the skin surface over the port.
17. Ask patient to take a deep breath.
18. Insert the needle at a 90° angle through the septum until the internal back plate is felt. The non-coring needle base (white) should lie flush with the skin.

19. Use the sterile swabs in the dressing pack and place the hub on these swabs.
20. Connect the 10 mls luer-lock syringe with 0.9% sodium chloride and aspirate blood into the non-coring needle tubing to check for blood return. If blood sampling is required, refer to appropriate section of step-by-step guide to blood sampling via a TIVAD.
21. Using the 20 mls of 0.9% sodium chloride gently flush the TIVAD using turbulent flushes (push-pause technique). Always use positive end pressure when flushing off the TIVAD by clamping while flushing the last 1 ml. Apply the sterile hub to close the needle.
22. The TIVAD needs to be locked with 5 mls hepsal (see note).
23. Apply a transparent moisture vapour transmission dressing over non-coring needle and tubing leaving the access site and clamp visible. (use only, IV 3000 central line dressing)
24. Dispose of all equipment correctly.
25. Remove gloves and perform hand hygiene using alcohol hand rub for 20 seconds.
26. Put the date on the dressing and document procedure on TIVAD documentation Sheet (Appendix 1).



**Note:**

- *If there are signs and symptoms of infection along and around the TIVAD pocket. **DO NOT** access and consult with a doctor.*
- *The TIVAD should always be accessed using a strict aseptic technique.*
- *Access **ONLY** with non-coring needles. **NEVER** rock or tilt non coring needle when in place. This will result in septum damage that will require removal of the device.*
- ***ALWAYS** use 10mls syringes with TIVAD. Remember the smaller syringes generate higher pressures.*
- ***ALWAYS** flush TIVAD using a push-pause technique, ending up with a positive end pressure.*
- *The non-coring needle should be chosen as follows:*
  - *Port is raised and visible without palpating- a ¾" needle length*
  - *Port is easily palpated – Use 1" needle length*
  - *If in doubt it is better use longer needle to make sure that you pass completely through the septum to the bottom of the port*
- *Different gauges and lengths of non-coring needles are available. Locally we use the 20G needles which are ¾" (19mm) or 1" (25mm).*
- *The gauge of the non-coring needle determines the flow rate of the infusate. 22 gauge needles are not recommended for administration of blood products or blood sampling.*
- *Hepsal (10units/ml) should be used as follows:*
  1. *When port not in use-20mls Normal Saline & 5 mls Heparinized Saline every 2 weeks*
  2. *After blood withdrawal or blood product infusion-20mls Normal Saline & 5 mls Heparinized Saline*
  3. *Before non-coring needle removal -20mls Normal Saline & 5 mls Heparinized Saline*
  4. *After each infusion of medication-10mls Normal Saline. If attaching an IVI do not flush with Hepsal.*
- ***ALWAYS** use volumetric pumps to administer IVI, treatment and blood products(with appropriate sets)*
- *A topic local anesthetic cream can be used prior to TIVAD access; the aim is to provide pain control. If emla® cream is used; it should be applied 1 hour prior the procedure.*
- *When possible two nurses are recommended for accessing and de-accessing a TIVAD.*

## WITHDRAWING OF BLOOD FROM A TIVAD

1. Perform hand hygiene using alcohol hand rub for 20 seconds.
2. Clean plastic tray thoroughly with a large universal disinfectant wipe and allow drying.
3. Prepare the items you require in clean utility. Prepare the vacuette bottles you need according to blood tests requested. (If the TIVAD does not have a non-coring needle inserted yet, refer to step 1-20 of the above guidelines).
4. Perform hand hygiene using alcohol hand rub for 20 seconds and apply sterile gloves.
5. Perform a hubscrub with 2% chlorhexidine in 70% alcohol wipe for 15 seconds and allow to air dry. **Remove the hub and discard.** If the entry site has crusts on it, repeat hubscrub again with a new 2% chlorhexidine in 70% alcohol wipe.
6. Use pack of sterile swabs and using principles of ANTT place the hub on the swabs. Connect the 10mls luer-lock syringe with 0.9% sodium chloride and aspirate blood into the non-coring needle tubing to check for blood return and clamp tubing.
7. Attach the sterile vacutainer to needle tubing, open clamp and take a red vacuette first to discard (dead space). Then continue with the correct order of draw to prevent sample blood contamination (Appendix 2). Invert each blood bottle 3-6 times to ensure proper mixing of blood with any reagents in the vacuette.
8. **If there is a suspected line infection, blood cultures should be taken first** to ensure that the blood/fluid within the TIVAD is sent for Culture and Sensitivity.
9. Clamp the tubing, remove vacutainer and attach syringes with 10 mls of 0.9% sodium chloride, release clamp and gently flush the system using push-pause technique.
10. Administer 5mls hepsal through a 10ml syringe, clamping whilst pushing in the last 1ml. This creates a positive pressure within the line and reduces the risk of blood clot formation at the tip.
11. Once completed, close the line with a new hub and tuck away the tubing of the non-coring needle to minimize the risk of accidental dislodgement.
12. Dispose of all equipment correctly.
13. Remove gloves and perform hand hygiene using alcohol hand rub for 20 seconds.
14. Label blood samples and send them to the laboratory.
15. Document procedure in care record.

## DE-ACCESSING THE TIVAD

1. Perform hand hygiene using alcohol hand rub for 20 seconds.
2. Clean plastic tray thoroughly with a large universal disinfectant wipe and allow drying.
3. Prepare the items you require in clean utility.
4. Repeat hand hygiene and apply sterile gloves.
5. Perform a hubscrub with 2% chlorhexidine in 70% alcohol wipe for 15 seconds and allow to air dry. Remove the hub and discard. If the entry site has crusts on it, repeat hubscrub again with a new 2% chlorhexidine in 70% alcohol wipe.
6. Flush with **two** 10mls syringes of 0.9% sodium chloride using push pause technique and with 10 ml syringe of 5ml hepsal ending with positive pressure. Close the clamp.
7. Carefully **pull the edge of the dressing horizontally**, this will start to peel off by itself. Locate and firmly anchor the base of the non-coring needle and the TIVAD firmly between your fingers and thumb.
8. Approach the non-coring needle from behind and stabilize the base and TIVAD.
9. Ask patient to take a deep breath. Place finger on the tip of safety arm and lift straight back until you hear the "click".
10. Use a small plaster to cover needle entry site if required.
11. Dispose of equipment safely, clean tray with disinfectant wipe.
12. Remove gloves and perform hand hygiene using alcohol hand rub for 20 seconds.
13. Document procedure in the TIVAD access chart

FOR ADMINISTERING MEDICATION AND/OR STARTING IV INFUSION; AND FREQUENCY OF IV ADMINISTRATION SET CHANGE, REFER TO **CARE OF THE CENTRAL LINE** CHAPTER

Appendix 1:



**TIVAD DOCUMENTATION SHEET**

Patient's Name:	ID No:
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Ward:	Date:
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<b>Visit</b>	First Time <input type="checkbox"/>	Planned <input type="checkbox"/>	Unplanned <input type="checkbox"/>
<b>Reason for Visit</b>	Routine Flush and Lock <input type="checkbox"/>	Blood Administration <input type="checkbox"/>	
	Blood Investigations <input type="checkbox"/>	Monoclonal Antibodies (Infliximab/Rituximab) <input type="checkbox"/>	
	Medication <input type="checkbox"/>	Cytotoxic Medication <input type="checkbox"/>	
	Infusion <input type="checkbox"/>	Other <input type="checkbox"/>	

**ACCESSING A TIVAD**

<b>Site Observation</b>	NAD <input type="checkbox"/>	Redness <input type="checkbox"/>	Inflammation <input type="checkbox"/>	Oedema <input type="checkbox"/>
<b>Patient Observation</b>	NAD <input type="checkbox"/>	Pyrexia <input type="checkbox"/>	Tenderness <input type="checkbox"/>	Pain/Discomfort <input type="checkbox"/>

\*Consult Doctor if abnormalities observed and record actions taken\*

<b>Local Anaesthesia (Emla/Other) applied:</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Non Coring Needle:</b>	Gauge 19 <input type="checkbox"/> 20 <input type="checkbox"/> 22 <input type="checkbox"/>	Length: ¾" <input type="checkbox"/> 1" <input type="checkbox"/> 1¼" <input type="checkbox"/>
<b>Ease of Access:</b>	Easy <input type="checkbox"/>	Difficult <input type="checkbox"/>
<b>Blood Return:</b>	Yes <input type="checkbox"/> (If yes, skip to next Section)	No <input type="checkbox"/> (If no, follow the below section)
<b>Priming Solution used:</b>	<i>(Always Use 10mls Leur Lock Syringes)</i>	

IF THERE IS NO BLOOD RETURN INSTRUCT PATIENT TO	Tick Accordingly <input checked="" type="checkbox"/>	Blood Return (Yes/No)
Take a deep breath		
Cough		
Change Head Position		
Lift Arm of Affected Side		
Stand Up		
Lie Down		

Elevate Foot of Bed			
Other (Specify)			
If there is <b>NO</b> blood return <b>NOTIFY</b> Doctor and:		Tick Accordingly <input checked="" type="checkbox"/>	
Push-Pull technique with 10mls of 0.9%Normal Saline <i>Stop immediately if you find any resistance and notify Doctor</i>			
Line flushes easily <i>There is no sign of infiltration or extravasation. Do the Normal Saline Challenge as ordered by Doctor</i> Flush using 250mls of 0.9%Normal Saline over 15minutes via pump.			
Line does not flush easily/ Blocked <i>Discuss with Doctor on how to proceed and ask him/her to document in Patient's file.</i> <i>If Blocked or there is a problem please refer patient to the Cardio Thoracic Team that inserted the TIVAD. Document in Patient's file.</i>			
Doctor's Signature:			
Dressing Used:		Aseptic Technique Followed:	
Nurse's Name:		Nurse's Signature:	
DE- ACCESSING A TIVAD			
Flushed with ease:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Final Flush:	20 mls of 0.9% Normal Saline <input type="checkbox"/>	5 mls of Heparinized Saline (10units/ml) <input type="checkbox"/>	
Nurse's Name:		Nurse's Signature:	
FOR IN- PATIENTS ONLY:			



Nurse's Name:	Nurse's Signature:
<ul style="list-style-type: none"><li>▪ Give patient contact numbers in Case of Emergency</li><li>▪ Give patient verbal and written information</li><li>▪ Patient understands and carries out instructions well</li><li>▪ Date of appointment for next visit/treatment _____</li></ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Appendix 2:

# CORRECT ORDER OF BLOOD DRAW.....

**BLOOD CULTURES** ← Start

**RED** - Discard bottles when taking bloods from lines

**BLUE**

**YELLOW/RED**

**GREEN**

**PURPLE**

**GREY**

**OTHERS**

*Invert tube 3 to 5 times after withdrawing blood.*

Go ahead partner...DRAW

The order of Blood Sample Collection is important due to additives in the tube

BeCause: Blood Cultures  
Rude: Red/Yellow  
Boys: Blue  
Yell like: Yellow/Red  
Gentle: Green  
Penguins: Purple  
Going to: Grey  
Alaska: All Others