



Crash Cart Study Guide

AMRH/ADMIN/SG/001/Ver.01
Effective Date: May 2022
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**Acronyms:**

| | |
|------------------|---|
| VF | Ventricular Fibrillation |
| VT | Ventricular Tachycardia |
| AED | Automated external defibrillator |
| CPR | Continue cardiopulmonary resuscitation |
| EEG | Electroencephalography |
| SLE | Systemic lupus erythematosus |
| SNS | Sympathetic nervous system |
| SJS | Steven Johnson Syndrome |
| PSVT | Paroxysmal Supraventricular Tachycardia |
| CHF | Congestive Heart Failure |
| IHD | Ischemic Heart Disease |
| B.P | Blood Pressure |
| SpO2 | Oxygen saturation |
| RR | Respiratory rate |
| PR | Pulse Rate |
| HR | Heart rate |
| RBS | Random blood sugar |
| ETT | Endotracheal Tube |
| MI | Myocardial infraction |
| CV | Cardiovascular |
| CNS | Central nervous system |
| GI | Gastrointestinal |
| GU | Genitourinary system |
| D5W | Dextrose 5 % in Water |
| SOB | Short of breath |
| I & O | Intake & Output |
| GTN | Glyceryl Trinitrate |
| COPD | Chronic obstructive pulmonary disease |
| RL | Ringer Lactate |
| NS | Normal Saline |
| IV | Intravenous |
| OPA | Oropharyngeal Airway |



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| | |
|-------------|--|
| ACS | Acute coronary system |
| ACLS | Advanced Cardiac Life Support |
| BID | Twice a day |
| PRN | When necessary |
| PO | Taken by mouth |
| SC | Subcutaneously |
| IM | Intramuscular |
| HTN | Hypertension |
| PSVT | Paroxysmal supraventricular tachycardia |
| ATP | Adenosine triphosphate |
| WPW | Wolff Parkinson white |
| G6PD | Glucose 6 phosphate dehydrogenase deficiency |
| pH | Potential hydrogen |
| Na | Sodium |
| NGT | Nasogastric tube |
| CO2 | Carbon Dioxide |



Crash Cart Study Guide

1. Introduction

A crash cart is the trolley for storing lifesaving equipment and medications in a hospital emergency rooms, wards /clinics etc. It is an integral component of emergency patient care. Al Masarra Hospital as a pure Psychiatric Care and Training facility is currently applying for WHO Patient Safety Friendly Hospital Initiative. This training material is in line with our compliance with the following standards as follows: C.5.1.1. Measuring Compliance with Policies and Procedures for Lifesaving Medications and C.5.2.1.Measuring Compliance with safe medication Policies and Procedure.

2. Scope

This study guide is applicable to all the Doctors, Staff Nurses, Pharmacy professionals and other linked health care workers dealing with clinical area procedures.

3. Purpose

- 3.1 To ensure all health care workers familiar with all emergencies medication and equipment used in different types of emergencies
- 3.2 To improve all healthcare workers' knowledge, skill and confidence while dealing with crash cart items.

4. Definitions

4.1 Crash cart or Code cart or Crash Trolley: Is a set of trays / drawers/shelves on wheels used in health institutions for transportation and dispensing of emergency medication / equipment at site of medical / surgical emergency for life support protocols (ACLS / ALS) to potentially save someone's life. The cart carries instruments as a support for cardiopulmonary resuscitation and other medical supplies while also functioning as a support for the patient.





CRASH CART STUDY GUIDE





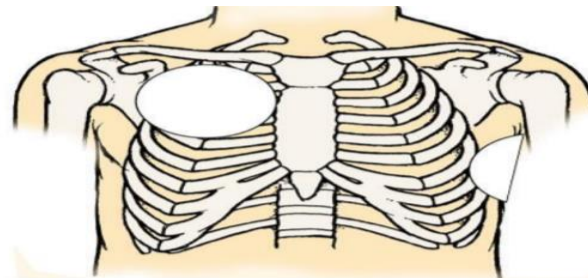
TOP SHELF

| NAME OF ITEMS | USES AND INDICATION | HOW TO USE | COMPLICATION |
|--|---|---|---|
| <p>Defibrillator</p> <p>Types of Defibrillators:</p> <ol style="list-style-type: none"> 1. Manual external defibrillator 2. Automated external defibrillator (AED)   | <ol style="list-style-type: none"> 1. Pulseless ventricular tachycardia (VT) 2. Ventricular fibrillation (VF) 3. Cardiac arrest due to or resulting in VF <p>Defibrillator require:</p> <ul style="list-style-type: none"> - ECG leads - ECG electrodes - KY gel - ECG recording paper - Defibrillator paddles use to know rhythm and or delivering shock -Self-adhesive defibrillation pads | <ul style="list-style-type: none"> • Gather and prepare the appropriate equipment. • Perform hand hygiene. • Confirm the patient's identity using at least two patient identifiers. • Provide privacy • If time allows, make sure that the patient and his family understand the procedure • Put on gloves to comply with standard precautions. • Assess the patient to ensure that he's unresponsive and not breathing or only gasping. • If the patient is unresponsive and not breathing or only gasping, call for help and then take up to 10 seconds to attempt to feel for a pulse (carotid or femoral). <p>If you're alone and don't feel a pulse or you're unsure whether you feel a pulse, begin chest compressions. After 30 compressions, open the patient's airway using a head-tilt chin-lift maneuver and give two breaths. If there is evidence of trauma that suggests spinal injury, use a jaw thrust maneuver to open the airway. Continue cardiopulmonary resuscitation (CPR) until the defibrillator and emergency equipment arrive.</p> <ul style="list-style-type: none"> • Make sure that the patient is in a dry environment and that his chest is dry because if personnel or the patient comes in contact with water, personnel may receive a shock and the patient may receive skin burns. • Remove metallic objects that the patient may be wearing because metal conducts electricity and could cause burns during defibrillation. • If patient with transdermal medication patches, remove | <ol style="list-style-type: none"> 1. The most common complications are harmless arrhythmias, such as atrial, ventricular, and junctional premature beats. 2. Ventricular fibrillation (VF) resulting from high amounts of electrical energy, digitalis toxicity, severe heart disease, or improper synchronization of the shock with the R wave 3. Thromboembolization is associated with cardioversion in 1-3% of patients, especially in patients with atrial fibrillation who have not been anticoagulated prior to cardioversion. 4. Myocardial necrosis can result from high-energy |



patches from the patient's chest (and back if using anterior-posterior placement) because the medication may interfere with current conduction and produce burns.

- Expose the patient's chest and apply the self-adhesive defibrillation pads. For anterolateral placement, position one pad to the right of the upper sternum, just below the right clavicle, and the other over the fifth or sixth intercostal space at the left anterior axillary line. For anteroposterior placement, position the anterior pad directly over the heart at the precordium to the left of the lower sternal border. Place the posterior pad under the patient's body beneath the heart and



Anterolateral placement

immediately below the scapula (but not on the vertebral column). Defibrillation occurs when an electrical current passes through the cardiac muscle to restore a single source of impulse production. Appropriate pad positioning maximizes the flow of electrical current through the heart

- Turn on the defibrillator and, if performing external defibrillation using a biphasic defibrillator, use clinically appropriate energy levels (usually 120 to 200 joules)

shocks. ST segment elevation can be seen immediately and usually lasts for 1-2 minutes.

5. Myocardial dysfunction is due to an absence of cardiac output and coronary blood flow during arrest, resulting in ischemia.

Myocardial dysfunction due to stunning may reverse within first 24-48 hours. Left ventricle function evaluation should be delayed for 48 hours after arrest.

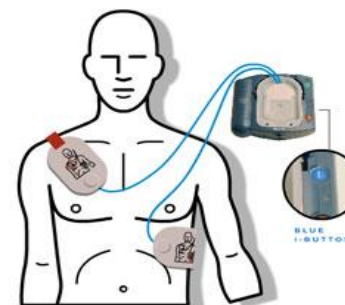
6. Pulmonary edema is a rare complication of cardioversion. It is probably due to transient left atrial standstill and left ventricular systolic dysfunction.

7. Painful skin burns can occur after cardioversion or defibrillation; they are moderate to severe in 20-25% of patients

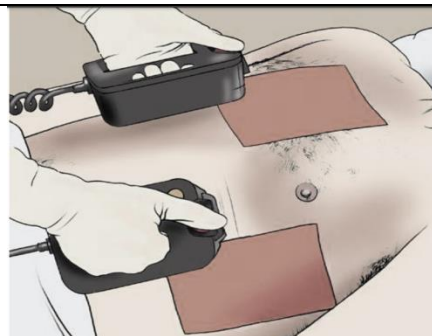


following the manufacturer's recommended dose.
If you're using a monophasic defibrillator, set the energy level for 360 joules for an adult patient.

- Connect the monitoring leads of the defibrillator to the patient and assess his cardiac rhythm.
- Turn on the ECG recorder to provide a visual recording of the patient's ECG as well as his response to interventions.
- Charge the self-adhesive defibrillation pads by pressing the appropriate button on the defibrillator.
- Reassess the patient's cardiac rhythm.
- Disconnect the oxygen source during actual defibrillation to decrease the risk of combustion caused by arcing of the electrical current in the presence of oxygen.
- If the patient remains in VF or pulseless ventricular tachycardia, state "all clear" or similar wording three times and visually verify that all personnel are clear of the patient and of the bed before discharging the electrical current. Electrical current can be conducted from the patient to anyone in contact with the patient.
- Discharge the current by pressing the appropriate button on the defibrillator.



**Defibrillation can cause accidental electric shock to those providing care. Using dry self-adhesive defibrillation pads or applying an insufficient amount of conductive medium can lead to skin burns.



Completing the procedure

- Resume CPR immediately, beginning with chest compressions and administering five cycles. Defibrillation is more likely to be effective if followed immediately with a cycle of chest

compressions and with minimal interruption in chest compressions.

- Reassess the patient's cardiac rhythm.
- If the patient remains in VF or pulseless ventricular tachycardia, prepare to defibrillate a second time. Reset the energy level on the defibrillator to 360 joules (or the biphasic energy equivalent) and continue CPR while the defibrillator is charging. Announce that you're preparing to defibrillate and follow the procedure described above.
- Resume CPR immediately, starting with chest compressions, and administer five cycles.
- Reassess the patient. If the patient remains in VF or pulseless ventricular tachycardia and defibrillation is again necessary, reset the energy level to 360 joules for the monophasic defibrillator (or the biphasic energy equivalent). Then follow the same procedure as before.
- Resume CPR immediately, starting with chest compressions, and administer 5 cycles.
- If defibrillation restores a normal rhythm, check the patient's central and peripheral pulses and obtain a blood pressure reading and heart rate. Assess the patient's respiratory status, level of consciousness, cardiac rhythm, breath sounds, skin color, and urine output. Obtain baseline ABG



levels and a 12-lead ECG. Provide supplemental oxygen and ventilation, insert an IV catheter (if not already in place), and administer medications, as needed and ordered following safe medication practices.


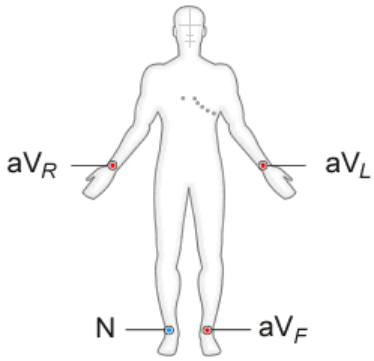
Check the patient's chest for electrical burns and treat them, as ordered. Also prepare the defibrillator for immediate reuse.

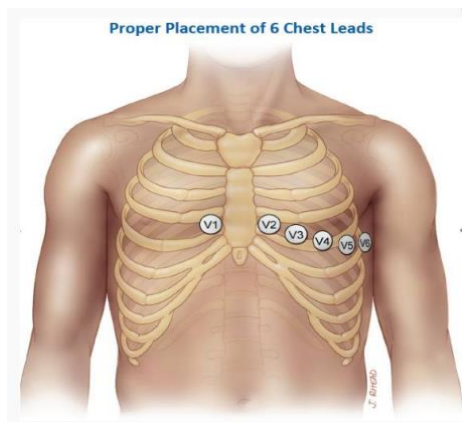
- Discard all supplies.
- Remove and discard your gloves.
- Perform hand hygiene.
- Provide support and information to the patient's family, as needed. After resuscitation, inform the patient of what happened if appropriate.
- Clean and disinfect your stethoscope, if used, with a disinfectant pad.
- Perform hand hygiene.
- Document the procedure

Special Considerations:

- Additional defibrillation should be done 30 seconds to 1 minute after administering medications.
- Check defibrillator operation regularly (usually once per shift), as determined by your facility.
- If defibrillation gel pads aren't available, defibrillator paddles require that a conductive gel be placed on the paddles before use. Place the gel on one paddle and rub the two paddles together to spread the gel evenly between them. Ensure that the surface of the paddle is completely covered.
- Defibrillation can be affected by several factors, including paddle size and placement, condition of the patient's myocardium, duration of the arrhythmia, chest resistance, and the number of countershocks.



| | | | |
|--|---|---|--------------------------------------|
| | | <ul style="list-style-type: none"> • Don't place the pad or paddle over a female patient's breast. Instead, place the apex of the pad or paddle at the fifth to sixth intercostal space, with the middle of the pad or paddle at the midaxillary line. • Family members of the patient undergoing resuscitation should be given the option to remain at the bedside during resuscitation because it's beneficial in meeting the psychosocial needs of the patient and his family in a time of crisis. • If the patient has a hairy chest, remove the hair from necessary locations for pad or paddle placement. Chest hair can increase transthoracic impedance. | |
| <p>ECG Leads</p>  | <p>Any patient requiring detail ECG analysis:</p> <ul style="list-style-type: none"> - suspected ACS - cardiac dysrhythmias - conduction disturbance - electrolyte imbalance - drug toxicity | <ol style="list-style-type: none"> 1. Ensure patient privacy 2. Place patient in a supine position if the patient will tolerate. 3. Place the patient's arms down by their side to relax their shoulders 4. Patient's legs should be uncrossed. 5. Dry the skin if it is diaphoretic or moist. 6. If require, remove excessive hair to ensure electrodes have full contact with the patient's skin 7. Electrodes should not be placed over bones and over areas where there is a lot of muscle movement.  | <p><u>No complication</u></p> |



| Electrode | Colour | Position | System |
|-----------|---------------|-------------------------------------|---|
| RA | White (Snow) | Right Arm | 3-Electrode 5-Electrode 12-Lead ECG |
| LA | Black (Smoke) | Left Arm | 3-Electrode 5-Electrode 12-Lead ECG |
| LL | Red (Fire) | Left Leg | 3-Electrode 5-Electrode 12-Lead ECG |
| RL | Green (Grass) | Right Leg | 5-Electrode 12-Lead ECG |
| C | Brown | Central Chest Over Sternum | 5-Electrode |
| V1 | Red | Sternal Edge Right 4th ICS | 12-Lead ECG |
| V2 | Yellow | Sternal Edge Left 4th ICS | 12-Lead ECG |
| V3 | Green | Between V2 and V4 | 12-Lead ECG |
| V4 | Blue | Mid-Clavicular line Left 5th ICS | 12-Lead ECG |
| V5 | Orange | Between V4 and V6 Left 5th ICS | 12-Lead ECG |
| V6 | Purple | Mid-Axillary Line Left 5th ICS | 12-Lead ECG |



Ambu Bag- Bag Valve Mask



1. Acute respiratory distress, hypoventilation (RR less than 10L/min) or cardio-respiratory arrest in adults requiring positive pressure ventilation.
2. Failed intubation (insertion of an artificial ventilation tube into the trachea)
3. Patients undergoing anesthesia for elective surgery
4. Apnea (slowed or stopped breathing)

1. Using one hand, hold the mask, with your thumb and index finger wrapped around the connector stem of the mask. Most operators use their non-dominant hand to grasp the mask, but either hand can be used as long as a good mask seal can be maintained.

2. Making sure not to place your hand or the mask on the patient's eyes, first place the nasal portion of the mask over the nose, and then lower the body over the patient's mouth. The bridge of the nose, the two malar eminences, and the mandibular alveolar ridge must be covered by the mask in order to achieve a proper seal.

3. Now extend your middle, ring, and little fingers underneath the patient's mandible, and pull it upward into the mask. This maneuver is similar to that of the head tilt–chin lift technique and further opens the airway.

4. While maintaining this upward traction on the mandible, press the mask downward onto the face to attain a tight mask seal. If your hand is large enough, place your little finger behind the mandibular ramus to do a jaw-thrust maneuver to further open the airway.



Be sure to pull up only on the bony parts of the mandible, because pressure to the soft tissues of the neck or under the chin may obstruct the airway.

5. Once a proper seal is achieved, use your other hand to begin ventilation.

During ventilation, continually monitor:

1. Gastric inflation-that can cause regurgitation of stomach contents and airway soiling/ Vomiting.
2. Pulmonary barotrauma
3. Undesirable cardiovascular effects such as hypotension, secondary to caval compression.
4. Aspiration (entry of foreign objects into the airway)
5. Hypoventilation
6. Worsen the airway obstruction
7. Accelerate hypoxia (low oxygen level in the blood)



| | | | |
|---|---|--|---|
| | | <p>Expiratory airflow through the valves, signs of cyanosis, adequacy of ventilation and airway pressure</p>  <p style="text-align: center; font-size: small;">shutterstock.com - 1493235419</p> | |
| <p>IV Stand</p>  | <ol style="list-style-type: none"> 1. Administer Medicine 2. Portability 3. Organization | <p>IV, or intravenous, poles are devices used to hold bags of fluid or medicine that is being given to a patient at a steady flow. This is done by hanging a bag of fluid on a hook near the top of the pole. The fluid then runs through a tube and into a patient's veins</p> | <p><u>No complication</u></p> |
| <p>Suction Apparatus</p> | <p>During respiratory failure in which the airway is blocked is it essential that the airway be cleared as quickly as possible. A portable suction machine located on</p> | <ol style="list-style-type: none"> 1. Wash your hands 2. Plug the suction machine into a grounded outlet. 2. Check that the tubing from the machine to the collection jar is on and snug. 3. The portable suction pressure should not be set higher than 15 mm/Hg. 4. Check pressure by turning the machine on and covering the open end of the suction line with one hand. | <p>Because oxygen is removed along with secretions, the patient may experience hypoxemia and dyspnea. Anxiety may alter respiratory patterns. Cardiac arrhythmias can result from hypoxia and</p> |

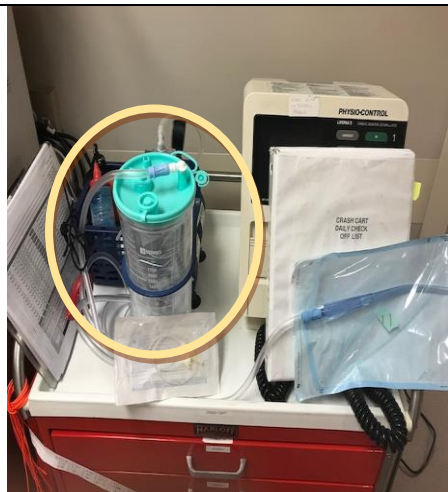


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the outside of the crash cart can quickly remove obstructions allowing staff to either restore regular breathing or prepare for intubation.

5. Look at the pressure dial. It should rise but not go any higher than the 15 marker on the dial.
6. If the pressure does not go up, re-check all tubing connections or adjust to the correct pressure.
7. Pick up clean suction catheter.
8. Turn on the suction machine.
9. "Bag" the patient. The patient must receive extra breaths during suctioning. This is done by using the Ambu Bag. Attach the bag to the person's airway (trach tube) and squeeze the bag to give extra breaths. Each person will be different in respect to how many times he/she needs to be "bagged." Follow the directions you were given from your doctor or therapist.

stimulation of the vagus nerve in the tracheobronchial tree. Tracheal or bronchial trauma can result from traumatic or prolonged suctioning. Patients with compromised cardiovascular or pulmonary status are at risk of hypoxemia, arrhythmias, hypertension, or hypotension. Patients with a history of nasopharyngeal bleeding, those who are taking anticoagulants, and those who have a blood dyscrasia are at increased risk of bleeding as a result of suctioning. Use caution when suctioning patients who have increased intracranial pressure because suction may further increase pressure. If the patient experiences laryngospasm or bronchospasm (rare complications) during suctioning, disconnect the suction catheter from the connecting tubing and allow the catheter to act as an airway. Discuss with the





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| | | | patient's practitioner the use of bronchodilators or lidocaine to reduce the risk of this complication. |
| <p>Stop Watch</p>  | Used to measure the time interval of an event. | | <u>No complication</u> |
| <p>Blood Pressure (B.P) Apparatus</p>  | To monitor patients' blood pressure manually. | <ol style="list-style-type: none">1. Locate patient's pulse2. Secure the cuff: Slide the cuff onto patient's arm, making sure that the stethoscope head is over the artery3. Inflate and deflate the cuff: Hold the pressure gauge in your hand Deflate the cuff slowly. Listen carefully until the sound disappears. Allow the cuff to completely deflate. Inflate the cuff by squeezing the bulb with your hand.4. Record patient's blood pressure. | |

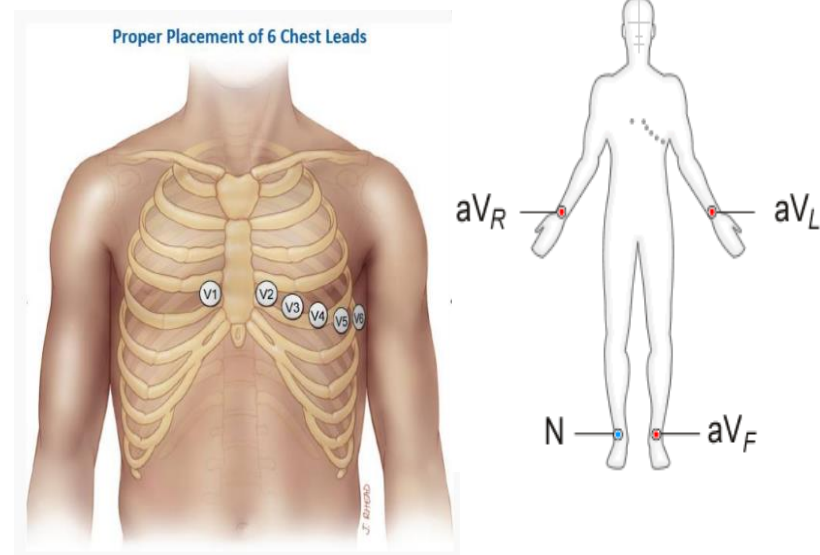


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| <p>Cardiac Board</p>  | <p>Cardiopulmonary resuscitation (Used to provide a flat and hard surface beneath a person who requires chest compressions to pump blood through his or her circulatory system)</p> | <p>A flat, rigid device that is placed under a patient to instantly give the necessary support required for the application of cardiopulmonary resuscitation. This device is typically suitable for use when an acute situation has arisen, and the patient is lying in his/her bed.</p> <p>Place the patient on a firm surface. If on a bed, place the cardiac compression board under the patient.</p> | <p><u>No complication</u></p> |
| <p>Medical Gas- Oxygen</p>  | <p>In cases of respiratory failure, oxygen may need to be administered, so a full and easily accessible oxygen cylinder and mask are essential pieces of equipment to have on your crash cart.</p> | <ul style="list-style-type: none"> • Check the cylinder contents gauge on the cylinder valve to ensure that there is • Sufficient gas contents in the cylinder • Remove the tamper evident seal and cover fitted over the valve outlets • Ensure the flow selector is set to zero before using the (black) hand wheel to open the cylinder valve • Open the cylinder valve slowly (turn anti clockwise until it stops) and check for any leak. • Ensure the outlet (fir tree connector) is free of obstruction. If dirt or other obstruction is seen; briefly turn the flow dial to maximum to clear it • Ensure that the correct equipment is selected for connection to the cylinder • Connect tubing to the fir tree connector and select appropriate flow rate | <p>Complications of Hyperbaric Oxygen Treatment</p> <ul style="list-style-type: none"> • Lung damage • Fluid buildup or bursting (rupture) of the middle ear • Sinus damage • Changes in vision, causing nearsightedness or myopia • Oxygen poisoning, which can cause lung failure, fluid in the lungs, or seizure |
| <p>ECG Electrodes</p> | <p>Any patient requiring</p> | <p>1. Ensure patient privacy</p> | <p><u>No complication</u></p> |



detail ECG analysis:
- suspected ACS
- cardiac dysrhythmias
- conduction disturbance
- electrolyte imbalance
- drug toxicity

2. Place patient in a supine position if the patient will tolerate.
3. Place the patient's arms down by their side to relax their shoulders
4. Patient's legs should be uncrossed.
5. Dry the skin if it is diaphoretic or moist.
6. If require, remove excessive hair to ensure electrodes have full contact with the patient's skin
7. Electrodes should not be placed over bones and over areas where there is a lot of muscle movement.
8. 10 electrodes are used for a 12 lead ECG. The electrodes usually consist of a conducting gel, embedded in the middle of a self-adhesive pad into which cables clip. Sometimes the gel also forms the adhesive. They are labeled and placed on the patient's body as follows:





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| V6 | Purple | Mid-Axillary Line Left 5th ICS | 12-Lead ECG |




Stethoscope

To assess a patient's cardiac and respiratory

No complication



First Drawer

| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|---|---|---|--|--|
| <p>Generic: Epinephrine</p> <p>Brand: Adrenaline</p> <p>Available: 1:1,000 (1 mg = 1 ml)</p> <p>1:10,000 (10ml; 0.1mg = 1ml)</p>  | <p>Adult Dose: Cardiac Arrest: IV: 1 mg of 1:1,000 solution every 3 to 5 min; if necessary (Double the dose if via ETT)</p> <p>Acute Anaphylaxis: IM: 0.5 mg of 1:1,000 solution repeat every 5 min if necessary</p> <p>IV: 0.5 – 1 ml of 1:10,000 IV slowly, repeat according to response</p> <p>Preparation: Cardiac Arrest Fill 2 ml syringe with 1:1,000 (1mg=1 ml) IV push (Do not dilute) Followed by N/S 20ml IV flush</p> <p>IV:0.5-1 ml of 1:10,000 (Do not dilute) To make 1:10,000 solution mix Adrenaline 1 mg (1:1,000) with 9 ml of 1</p> | <p>Action: Resp: Stimulates β_2 adrenergic receptors resulting in bronchodilation</p> <p>CV: Stimulates β_1 adrenergic receptors causing increased heart rate and blood pressure</p> <p>Classification: Sympathomimetic Vasopressor Bronchodilator Alpha and β agonist</p> | <p>Indication: Cardiopulmonary Arrest, Acute Bronchial Asthma, Croup</p> <p>Anaphylactic Shock (angio edema)</p> <p>Symptomatic Bradycardia</p> <p>Relief of bronchospasm Occurring during anaesthesia</p> <p>Contraindication: History of hypersensitivity or intolerance to Adrenaline</p> <p>Cardiac Arrhythmias</p> | <p>Adverse Effects: CV: Arrhythmias, palpitations, hypertension</p> <p>CNS: Nervousness, restlessness, tremor</p> <p>Life Threatening: Systematic reaction MI, VF, Pulmonary edema and CV collapse</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Assess patient level of consciousness before, during and after administration</p> <p>Watch for cardiac arrhythmias, rapid elevation of blood pressure notify doctors if it occurs or patient's condition deteriorates.</p> <p>ECG to be taken once patient gets perfusing rhythm</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |




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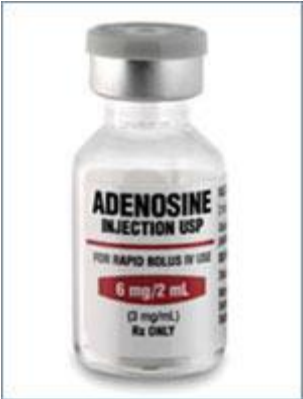
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mg/10ml=0.1mg/ml

| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|---|---|--|--|
| <p>Generic: Amiodarone</p> <p>Brand: Cordarone Amino-aqueous Pacerone</p> <p>Available: 150 mg = 3 ml (50mg=1ml)</p>  | <p>Adult Dose: Cardiac Arrest: IV: 300 mg bolus, may repeat with 150 mg bolus</p> <p>Post-arrest maintenance: 15mg/min/for10min (150mg) 1mg/min for 6 hrs (360mg) 0.5mg/min for 18hrs(540 mg) Max dose 2.2g/day</p> <p>Tachyarrhythmia: IV: 150 mg over 10 min. may repeat 150 mg every 10 min.</p> <p>Preparation: Cardiac Arrest: IV bolus: (300 mg=6ml) mix with 20 ml Dextrose (D5W) then push IV slowly</p> <p>IV infusion: 450 mg Amiodarone dilute with 250 ml D5W 0.14 ml/min (18 hours)</p> | <p>Action: Acts directly on all cardiac tissues</p> <p>Antiarrhythmic Antiadrenergic</p> <p>Decreases peripheral resistance & increases coronary blood flow</p> <p>Blocks effects of sympathetic stimulation</p> <p>Classification: Cardiovascular Agent Antiarrhythmic</p> | <p>Indication: Prophylaxis and treatment of life threatening Ventricular Arrhythmias & Supraventricular Arrhythmias particularly AF</p> <p>Contraindication: CHF Cardiomyopathy Severe conduction disturbances Sinus Bradycardia S-A/AV block</p> <p>Severe respiratory failure</p> <p>Liver disease</p> <p>Electrolyte imbalance</p> <p>Lung disease</p> | <p>Adverse Effects: CV: Hypotension Tachycardia</p> <p>CNS: Muscle weakness, fatigue, dizziness</p> <p>GI: Anorexia Nausea and Vomiting</p> <p>Life Threatening: Cardiogenic Shock</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Watch for cardiac arrhythmias and notify doctor accordingly</p> <p>During IV infusion monitor BP and slow the infusion if significant hypotension noticed (Rapid injection may precipitate hypotension)</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |




| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|--|--|---|---|
| <p>Generic: Adenosine</p> <p>Brand: Adenocard</p> <p>Available: 6mg=2ml</p>  | <p>Adult Dose:</p> <p>1st dose: 6mg=2ml If no response in 1-2 minutes, 2nd dose: another 12mg=4ml, if needed 3rd dose: another 12mg (reduce dose in ½ in case of heart transplant patients)</p> <p>Preparation: Fill syringe with the required amount of Adenosine; 6mg or 12mg (Do not dilute) A 20 ml syringe filled with N/S=20ml</p> <p>3 way connector</p> <p>Connect all above to the Cannula of the patient</p> <p>Push Adenosine fast through one side of the 3 way connector followed by N/S 20ml fast.</p> <p>May repeat the same depending on patient response.</p> | <p>Action: Slows down cardiac conduction through the AV and SA nodes, which depresses left ventricular function.</p> <p>The effect is transient due to short half life.</p> <p>Classification: Antiarrhythmic Drug</p> | <p>Indication: Paroxysmal Supraventricular Tachycardia (PSVT)</p> <p>Contraindication: Patient with 2nd and 3rd degree AV Block</p> <p>Atrial Flutter/ Fibrillation (AF)</p> <p>Sick sinus syndrome unless pacemaker is fitted</p> <p>Asthma</p> <p>Caution: Heart transplant patient are more sensitive to the drug</p> | <p>Adverse Effect:</p> <p>Resp: Shortness of Breath (SOB) and Chest tightness</p> <p>CV: Transient flushing, arrhythmias, hypotension, palpitation and chest pain</p> <p>CNS: Dizziness</p> <p>Life threatening: Resp: SOB (Bronchospasm)</p> <p>CV: Severe bradycardia, Asystole</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Obtain pre-procedure ECG continue ECG monitoring, look for arrhythmias, notify doctor if any occurs.</p> <p>Insert big cannula over the antecubital (elbow) area.</p> <p>Give the Adenosine as mentioned in the preparation then elevate the injected hand above the level of the heart.</p> <p>Obtain post procedure ECG to confirm and document efficacy of Adenosine.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|--|--|---|--|
| <p>Generic: Flumazenil</p> <p>Brand: Anexate Romazicon</p> <p>Available: 0.5mg = 5ml</p>  | <p>Adult Dose: Benzodiazepine overdose: IV: Initial dose; 0.2mg over 30 secs. may repeat with 0.3mg IV q 30sec up to a maximum cumulative dose of 3mg/hr</p> <p>Infusion: 100-400 mcg/hr</p> <p>Preparation: Fill syringe with 0.5mg=5ml inject directly through a vein over 15 secs. no need to dilute</p> <p>For overdose patient inject over 30 secs.</p> | <p>Action: Antagonizes and inhibits the action of Benzodiazepine</p> <p>Classification: Antidote Benzodiazepine receptor antagonist.</p> | <p>Indication: Complete or partial reversal of sedative effects of Benzodiazepine</p> <p>Management of Benzodiazepine overdose</p> <p>Contraindication: Status Epilepticus, Raised ICP overdose with antidepressant Allergy to Benzodiazepines</p> <p>Caution: In patients with history of seizures, drug or alcohol dependency and head injury</p> | <p>Adverse Effect: CV: arrhythmia, chest pain, hypertension</p> <p>CNS: seizure agitation, dizziness, vertigo</p> <p>Watch for re-sedation</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>After administration observe level of consciousness and respiratory status</p> <p>Monitor clinical response carefully to determine effect of the drug such as breathing difficulty, severe headache, arrhythmias and pain at IV site.</p> <p>Use large vein for running IV to reduce pain</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|--|--|--|--|---|
| <p>Generic: Naloxone Hydrochloride</p> <p>Brand: Narcan</p> <p>Available: 0.4mg=1ml</p>  | <p>Adult Dose: Opioid overdose: Bolus: 0.4mg-2mg IV push max 10mg If not responding can be repeated up to 2mg.</p> <p>Post-operative Respiratory Depression 200-400mcg titrated to desired effect</p> <p>Preparation: Adult for opioid overdose withdraw 0.4mg=1ml direct IV push bolus, no need to dilute.</p> <p>For continue infusion: Opioid overdose take 10 mg dilute with 50ml NS or 5% Dextrose.</p> <p>Reversal for Respiratory depression: 4mcg/ml dilute with 100ml 5% Dextrose or NS to make total 100ml</p> | <p>Action: Unknown thought to displace opioid analgesics from their receptors (competitive antagonism); The drug has no pharmacologic activity on its own</p> <p>Classification: Antidotes, detoxifying agents and drugs used in substance dependence.</p> | <p>Indication: Respiratory Depression from narcotic overdose</p> <p>Contraindication: Contraindicated in patients hypersensitive to Naloxone</p> <p>Caution: In patients with cardiac irritability or opioid addiction</p> <p>Note: Drug is effective only in reversing respiratory depression caused by opioid, not against other drug induced respiratory depression, including those caused by Benzodiazepines</p> | <p>Adverse Effect: CV: Hypertension, hypotension, Ventricular tachycardia, Pulmonary edema, tremulousness</p> <p>GI: Nausea and Vomiting</p> <p>Caution: Re-narcotization if used for reversing long acting opioid.</p> <p>May precipitate acute withdrawal in opioid addicts.</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Monitor respiratory rate rhythm and depth and level of consciousness before and after administration.</p> <p>Duration of action of the opioid may exceed that of naloxone and patient may relapse to respiratory depression</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |




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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|---|--|---|---|
| <p>Generic: Lidocaine Prilocaine</p> <p>Brand: Xylocaine, Ztlido, Lignocaine</p> <p>Available: 100mg=5ml (2%)</p>  | <p>Adult Dose: IV Bolus: 50-100mg, (1-1.5 mg/kg may repeat q 5-10 min. max 3 mg/kg) followed immediately by</p> <p>IV infusion: 4 mg/min for 30 mins, 2 mg/min for 2 hrs 1 mg/min up to 24 hrs</p> <p>Preparation: IV bolus: during emergency fill syringe with required amount (lighter patient use 50 mg) push thru IV directly, no need to dilute.</p> <p>IV infusion for continuous infusion see above infusion dose/recommended chart.</p> | <p>Action: Decreases cardiac excitability by delaying cardiac contraction in the atrium and ventricle</p> <p>Classification: Antiarrhythmic and local anaesthetic agent</p> | <p>Indication: Ventricular arrhythmias</p> <p>Contraindication: Hypersensitivity to amide-type local anaesthetics.</p> <p>Patient with Stoke- Adams syndrome & Wolff-Parkinson's- White Syndrome, Severe myocardial depression</p> <p>Sinoatrial disorders, all cases of AV block, and intraventricular block/myocardial depression in the absence of pacemaker.</p> | <p>Adverse Effect: Confusion and drowsiness Dizziness Paraesthesia</p> <p>Life Threatening: CV: Cardiac Vascular collapse from ↓BP + Bradycardia</p> <p>CNS: SOB and difficulty in swallowing, convulsion and respiratory Depression and arrest.</p> <p>Special Precaution: Renal, cardiac or hepatic failure patients.</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Continue ECG monitoring, look for arrhythmias, Stop infusion notify doctor if any occurs.</p> <p>Monitor serum Lidocaine and electrolyte level.</p> <p>Monitor I&O</p> <p>Do not mix with Sodium Bicarbonate</p> <p>In case of circulatory depression have Dopamine available.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |




| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|--|--|---|--|
| <p>Generic: Nitroglycerin</p> <p>Brand: Tridil Nitrostat Nitrolingual Spray</p> <p>Available: Spray: 0.4 mg/dose Vial: 50mg=50ml</p>  | <p>Adult Dose: Oral: GTN: 0.5mg S/L or 1 Spray S/L Repeated as required.</p> <p>IV Infusion: Start with 1-2 mg/hr, increase slowly according to response, 1mg every 3-5 mins. Max. 12mg/hr</p> <p>Preparation: During emergency situation withdraw 10ml=10mg start according to doctor's order.</p> <p>For infusion dose: Draw all 50ml solution put in 50ml syringe pump and adjust the dose according to patient's BP and doctor's instructions</p> | <p>Action: Decreases myocardial oxygen consumption</p> <p>Decrease Ventricular preload and after load</p> <p>Increase coronary blood flow by dilating coronary arteries</p> <p>Classification: Cardio vascular agent, Nitrate, Vasodilator</p> | <p>Indication: Prophylaxis, Angina Pectoris, CHF associated with MI cardiac load reducing agent Hypertensive crisis</p> <p>Contraindication: Hypotensive conditions, hypovolemia Hypertrophic cardiomyopathy Aortic/mitral stenosis Concomitant use of Sildenafil (Viagra)</p> | <p>Adverse Effect:</p> <p>CV: Orthostatic hypotension, flashing, Fainting</p> <p>CNS: Throbbing headache, dizziness, weakness.</p> <p>GI: Nausea and Vomiting</p> <p>Life Threatening: Circulatory collapse Anaphylactic reaction</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Monitor BP and Apical pulse periodically after dose.</p> <p>Record factors of angina pain</p> <p>Have client sit or lie down if taking drug for the first time.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |




| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|--|---|---|--|
| <p>Generic: Dextrose 50% Brand: Glucose , Glucose, Instagluose Available: D50 in 20 ml or D50% in 25 ml</p> <p style="background-color: yellow; border: 1px solid black; padding: 2px;">Caution: Concentrate electrolyte</p> <p style="background-color: red; color: white; border: 1px solid black; padding: 2px;">High Alert: Double Check</p>  | <p>Adult Dose: Depend in individual requirements 20-50 ml of 50% solution infused slowly (3ml/min)</p> <p>Preparation: Fill syringe with the prescribed amount then push directly as IV (no need to dilute)</p> | <p>Action: Provides calorie Therapeutic effects: Provision of calories prevention and treatment of hypoglycaemias</p> <p>Classification: Caloric agent (Carbohydrates)</p> | <p>Indication: hypoglycaemia</p> <p>Contraindication: Hyperglycemia</p> | <p>Adverse Effect: Fluid and Electrolytes: Fluid overload, hypokalemia, hypomagnesemia, hypophosphatemia</p> <p>Metabolism: Glycosuria, hyperglycemia</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Check RBS before during and after administration</p> <p>Watch for any side effects and notify doctor accordingly</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|--|---|---|--|
| <p>Generic: Atropine Sulphate</p> <p>Brand: Isopto Atropine</p> <p>Available: 0.5 mg=1 ml</p>  | <p>Adult Dose:</p> <p>Bradycardia: 0.5 – 1 mg IV every 3-5 min, max 3 mg or 0.04 mg/kg</p> <p>Warning: Dose<0.5mg have been associated Paradoxical Bradycardia</p> <p>Chemical Poisoning: Nerve gas and organophosphate symptoms 2mg every 5-6 min IV/IM until relief of symptoms</p> <p>Preparation: Fill syringe with the prescribed amount then push directly as IV (No need to dilute) followed by Normal Saline 20 ml flush</p> <p>(May give IM if No IV access</p> | <p>Action: Blocks the action of Acetylcholine at Parasympathetic sites in smooth muscles, secretory glands and CNS.</p> <p>Classification: Anticholinergic</p> | <p>Indication:</p> <p>Symptomatic Bradycardia</p> <p>Pre-op to decrease oral and respiratory secretions</p> <p>Antidote (IM or IV) for Organophosphate poisoning</p> <p>Contraindication: Patients with angle-closure glaucoma</p> <p>Patient with history of hypersensitivity or intolerance</p> | <p>Adverse Effects:</p> <p>CV: Tachycardia and Arrhythmias</p> <p>CNS: Drowsiness, Coma</p> <p>Eye: Blurred Vision</p> <p>GU: Dysuria or urinary retention</p> <p>Life Threatening: CV: Ventricular Fibrillation</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Watch for cardiac arrhythmia (Tachycardia) and low BP notify doctor accordingly</p> <p>For elder post-op patient monitor intake and output as Atropine may cause urinary retention</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |




| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|--|---|--|---|--|
| <p>Generic: Magnesium Sulphate Brand: Magnesium Sulfate Available: Magnesium Sulfate 50% 1 ampoule=5ml =0.5g/ml</p> <p style="background-color: yellow; border: 1px solid black; padding: 2px; text-align: center;">Caution: Concentrate electrolyte</p> <p style="background-color: red; color: white; border: 1px solid black; padding: 2px; text-align: center;">High Alert: Double Check</p>  | <p>Adult Dose: Torsades de pointes: IV: 1-2 gm over 1-2 mins.</p> <p>Severe Asthma: IV: 1.2-2gm over 20 mins.</p> <p>Pre-eclampsia/Eclampsia IV bolus: 4gm over 5 to 15 mins. If seizure recurs then 2g/h over 5 to 15 mins.</p> <p>IV maintenance infusion: 1g/hr at least for 24 hrs.</p> <p>Hypomagnesemia Adult 25 to 50 mg/kg IV q4-6hr</p> <p>Preparation: For IV injection concentration of 20% or less should be used, the rate of injection should not exceed 1.5 ml/min of a 10% solution.</p> | <p>Action: Depresses cardiac muscle function and CNS by decreasing the amount of acetylcholine liberated from motor neurons.</p> <p>Classification: Anticonvulsant Electrolytes (Magnesium)</p> | <p>Indication: Torsades de pointes Ventricular Tachycardia</p> <p>Anticonvulsant in severe eclampsia or pre-eclampsia</p> <p>Treatment of Hypomagnesemia</p> <p>Asthma if no response with conventional therapy</p> <p>Contraindication: Myocardial damage, Heart block, Hypermagnesemia</p> | <p>Adverse Effect:</p> <p>Resp: Decrease Respiratory rate</p> <p>CV: Hypotension, bradycardia and heart block, circulatory collapse</p> <p>CNS: Drowsiness, paralyses and sedation</p> <p>Environmental: Hypothermia</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Continue monitoring BP, PR, RR and withhold the drug if RR<16.</p> <p>Monitor neurological status before, during and after administration check patellar reflex (knee jerk) should be tested after each parenteral dose if response is absent, no additional dose should be administered until positive response is obtained.</p> <p>Monitor Plasma Magnesium level Calcium Gluconate available for Magnesium toxicity</p> <p>Monitor I&O</p> |



Continue patient monitoring and notify doctor if patient's condition deteriorates.

Second Drawer

| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|---|--|--|--|
| <p>Generic: Phenytoin</p> <p>Brand: Dilantin</p> <p>Available: 250mg=5ml (50mg=1ml)</p>  | <p>Adult Dose: IV: Adult loading dose 15-18mg/kg Max rate of infusion should not exceed 50ml/min.</p> <p>Preparation for infusion: Take the prescribed amount of Phenytoin and dilute with 50 to 100 ml NS give as IV infusion (Do not exceed 50mg/min)</p> | <p>Action: Unknown. A hydantoin derivative that stabilizes neuronal membranes and limits seizure activity by either increasing efflux or influx of sodium ions across cell membranes in the motor cortex during generation of nerve impulses.</p> <p>Classification: Anticonvulsant Hydantoin</p> | <p>Indication: Control of status epilepticus of the tonic-clonic (grand mal) and psychomotor (Temporal lobe) seizures. Preventions and treatment of seizure occurring during neurosurgery</p> <p>Contraindication: Hypersensitivity to hydantoin products.</p> <p>Sinus bradycardia, sinoatrial block, 2nd and 3rd degree AV block and patients with strokes, Adam syndrome because of phenytoin's effect on</p> | <p>Adverse Effect: CV: CV collapse, hypotension,</p> <p>Dermatologic bullous, exfoliative or purpuric dermatitis, Systemic lupus erythematosus (SLE) and Steven Johnson Syndrome (SJS)</p> <p>CNS: Nystagmus, ataxia, dysarthria, slurred speech, mental confusion, dizziness, drowsiness, insomnia, numbness, tremors, headache, and photophobia.</p> <p>GI: Nausea,</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Use only clear solution for injection. A slight color yellow is acceptable. Do not refrigerate</p> <p>Do not withdraw drug suddenly because seizures may worsen.</p> <p>If using to treat seizures, take appropriate safety precautions.</p> <p>Caution patient that drug may color urine pink, red or reddish brown.</p> <p>Continue patient monitoring and notify doctor if patient's</p> |




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| | | | ventricular automaticity. | vomiting, liver damage. Life Threatening: CV Collapse, liver damage, SLE & SJS. | condition deteriorates. |
|--|--|--|---------------------------|--|-------------------------|

| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|--|--|---|---|---|
| <p>Generic: Sodium Chloride 0.9%</p> <p>Brand: Sodium Chloride</p> <p>Available: Sodium Chloride 0.9% = 10ml</p>  | <p>Adult Dose: As directed by a physician. Dosage is dependent upon the age, weight and clinical condition of the patient as well as laboratory determinations.</p> | <p>Action: Normal Saline is a prescription medicine used for fluid and electrolyte replenishment for intravenous administration. Normal Saline may be used alone or with other medications.</p> <p>Classification: Belongs to a class of drugs called Crystalloid Fluid.</p> | <p>Indication: Indicated as a source of water and electrolytes.</p> <p>Contraindication None known.</p> | <p>Adverse Effect: Fast heartbeat fever rash joint pain shortness of breath injection site swelling redness infection</p> <p>Caution: Sodium Chloride injection should be used with great care in patients with congestive heart failure, severe renal insufficiency, and in clinical states in which there</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>During infusion, monitor closely BP, PR, ECG and adjust dose and rate accordingly to patient response and doctor's order</p> <p>Monitor injection site for any signs of edema, extravasation and infection.</p> <p>Monitor patient I&O</p> <p>Monitor urine output and signs of edema.</p> |




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| | | | | exists edema with sodium retention. In patients with diminished renal function, administration of Sodium Chloride may result in sodium retention. | Continue patient monitoring and notify doctor if patient's condition deteriorates. |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|---|---|---|--|
| <p>Generic: Ipratropium Bromide</p> <p>Brand: Atrovent</p> <p>Available: 250 mcg/1ml</p>  | <p>Adult Dose: Adult and children over 12 years 250-500 mcg 3-4x/day with doses 6-8 hrs apart.</p> <p>Preparation: Take 1ml (or according to doctor's order) dilute to 4ml NS give as nebulizer</p> | <p>Action: Bronchodilation anticholinergic, chemically related to atropine, which blocks vagally mediated reflexes by antagonizing the actions of acetylcholine causing bronchodilation and inhibits secretion from serous and seromucous glands lining the nasal mucosa.</p> <p>Classification: Anticholinergic Antimuscarinic</p> | <p>Indication: Bronchodilator for maintenance treatment of bronchospasm associated with COPD (solution aerosol) Chronic Bronchitis and Emphysema</p> <p>Contraindication: Hypersensitivity to Atropine and Ipratropium</p> <p>Caution: Avoid use in acute bronchospasm as isolated agent for acute use. Use with Salbutamol.</p> | <p>Adverse Effect: Resp: Bronchospasm and cough</p> <p>CV: Hypotension and palpitation</p> <p>CNS: Anxiety, nervousness and headache</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Assess respiratory status (rate, rhythm, breath sound, degree of dyspnea)</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |



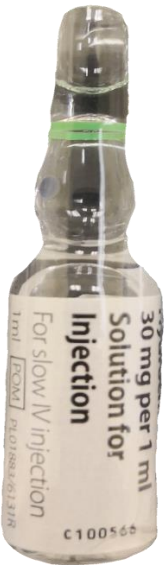
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| | | Parasympatholitic Broinchodilator | | | |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|--|---|--|--|
| <p>Generic: Salbutamol</p> <p>Brand Name: Ventolin</p> <p>Available Dose: 5 mg/ml 20 ml</p>  | <p>Adult Dose: Adult give 2 puffs every 4-6 hours</p> <p>Preparation: Shake well before use. For more than 1 inhalation wait for 2 minutes before repeating the procedure.</p> | <p>Action: is a selective beta2-adrenoceptor agonist. At therapeutic doses it acts on the beta2-adrenoceptors of bronchial muscle to provide bronchodilation. With its fast onset of action (within 5 minutes) it is particularly suitable for the management and prevention of attacks in asthma.</p> <p>Classification: Bronchodilator</p> | <p>Indication: Asthma, Bronchospasm, Reversible airway obstruction, acute prophylaxis against exercise-induced bronchospasm and other stimuli known to induce bronchospasm. Hyperkalemia</p> <p>Contraindication: Salbutamol must not be used to prevent premature labour in the case of a pre-eclampsia, placenta previa or bleedings.</p> | <p>Adverse Effect: Resp: Difficulty breathing</p> <p>CV: Tachycardia, trembling</p> <p>CNS: headache, feeling faint, unexplained high temperature (fever)</p> <p>Derma: severe allergic reaction, lumpy skin, rash, swelling of the face, lips or eyelids</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Assess respiratory status (rate, rhythm, breath sound, degree of Dyspnea)</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|---|--|--|--|--|
| <p>Generic: Furosemide</p> <p>Brand: Lasix Frusid</p> <p>Available: 20mg=2ml</p>  | <p>Adult Dose: Acute Pulmonary edema: IV: 40mg slowly if response is unsatisfactory after 15-30 min. may be increased up to 80mg and given over 1-2 min.</p> <p>Hypertension/ Edema: PO: 40mg initially, maintenance 20-40 mg BID. If needed additional antihypertensive agents may be added</p> <p>Preparation: Fill syringe with the required amount of drug 20mg=2ml push directly IV no need to dilute.</p> | <p>Action: Inhibits sodium and chloride reabsorption at the proximal and distal tubules and the ascending loop of Henle.</p> <p>Classification: Loop Diuretics</p> | <p>Indication: Edema associated with CHF, Cirrhosis with ascites or renal dysfunctions.</p> <p>For hypertension or in combination with other antihypertensive medications</p> <p>Contraindication: Hypovolemia, dehydration, severe hyponatremia and severe hypokalemia, Coma/pre-coma state associated with allergies to sulphonamides may also be allergic to Furosemide</p> <p>Caution: In patient with hepatic cirrhosis, elderly, breast feeding women</p> <p>In pregnant, use only if</p> | <p>Adverse Effect: CV: Orthostatic hypotension Thrombophlebitis</p> <p>CNS: Dizziness, vertigo, paresthesias, xanthopsia, weakness</p> <p>GI: Nausea, anorexia, vomiting</p> <p>Hematologic: Leukopenia, anemia, thrombocytopenia, fluid and electrolyte imbalances (hyponatremia, hypokalemia) hyperglycemia, hyperuremia, metabolic alkalosis</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>If the BP low hold the dose and inform doctor before administration</p> <p>Measure I&O and daily weight</p> <p>Increase risk of orthostatic hypotension, advise patient to move slowly and to report any symptoms if it occur.</p> <p>Do not expose to light or do not use discoloured drug or solutions.</p> <p>Discard diluted solutions after 24 hrs continue patient monitoring till further instruction from the doctor.</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|--|---|--|--|
| <p>Generic: Ephedrine</p> <p>Brand: Ephedrine</p> <p>Available: 30 mg/ml ampule</p>  | <p>Adult Dose: 25 to 50 mg (range 10-50 mg) IM or SC</p> <p>IV: IV route may be used if an immediate response is required, 5-25 mg which may be repeated every 5 to 10 minutes until the desired response is obtained.</p> <p>Preparation: Take the prescribed amount using a syringe and administer according to doctor's order.</p> | <p>Action: a sympathomimetic amine, acts on part of the sympathetic nervous system (SNS). The principal mechanism of action relies on its indirect stimulation of the adrenergic receptor system by increasing the activity of norepinephrine at the postsynaptic α and β receptors.</p> <p>Classification: Sympathomimetic</p> | <p>Indication: Use to relieve low blood pressure during spinal anesthesia, treatment of shock unresponsive to fluid replacement, treatment of bronchial asthma, and reversible bronchospasm.</p> | <p>Adverse Effect: CV: tachycardia, palpitation and sweating. CNS: Dizziness, headache, nervousness, restlessness, tremors, sleeplessness GI: nausea, loss of appetite, gastric irritation Resp: SOB, tightness of chest, Derma: swelling of mouth, lips or tongue, severe allergic reaction Uro: Difficulty painful urination, urinary retention Caution: heart disease, angina pectoris, diabetes, hyperthyroidism, prostatic hypertrophy or hypertension and to patients receiving digitalis.</p> | <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Contraindications: Allergic reactions to ephedrine sulfate are rare. The hypersensitivity, if known, is a specific contraindication. Patients hypersensitive to other sympathomimetics may also be hypersensitive to ephedrine sulfate.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|---|---|--|---|--|
| <p>Generic: Labetalol</p> <p>Brand: Trandate or Normodyne</p> <p>Available: 100mg=20ml</p> | <p>Adult Dose: IV Bolus: 20-50mg slowly or 0.25mg/kg at least over 1-2 minutes. Then 20 mg q 10min. max 200mg (excessive bradycardia could be countered by atropine 0.6-2.4mg in divided doses)</p> <p>IV Infusion: 2mg/min till satisfactory response, max 200mg Following AMI: 15mh/hr gradually increase to 120mg/hr Pregnancy 20mg/hr, double every 30mins. Usually max 160mg/hr Preparation Bolus: Withdraw the prescribed amount (usually 20mg) give</p> | <p>Action: It blocks α_1, β_1 and β_2 adrenergic receptors contributing to the blood pressure lowering effect</p> <p>It prevents reflex tachycardia seen with most α blocking drugs and decreases plasma renin.</p> <p>Classification: α and β adrenergic blockers</p> <p>Antihypertensive</p> | <p>Indication: Severe Hypertension particularly following AMI in pregnancy, with angina and hypertensive crisis</p> <p>Contraindication : Sinus bradycardia 2nd and 3rd degree Heart block, Cardiogenic shock CHF and Asthma</p> | <p>Adverse Effect: Resp: Dyspnea and cough</p> <p>CV: Heart failure, cardiac arrhythmias, CVA, pulmonary edema and postural hypotension</p> <p>CNS: dizziness, vertigo, fatigue</p> <p>GI: Gastric pain, flatulence and constipation</p> <p>Life Threatening: Bronchial spasms</p> <p>Caution: In patients with hepatic impairment and DM (it can mask cardiac signs of hypoglycaemia)</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>During infusion, monitor closely BP, PR, ECG and adjust dose and rate accordingly to patient response and doctor's order Monitor urine output and edema</p> <p>Check RBS for diabetic patient before and during administration of drug.</p> <p>If BP drop suddenly discontinue the drug and notify the doctor immediately.</p> <p>To minimize postural hypotension; avoid patient upright position during and for 3 hrs after administration.</p> |




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| | directly as slow IV over 2 mins. No need to dilute. | | | | Continue patient monitoring and notify doctor if patient's condition deteriorates. |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|--|--|---|--|
| <p>Generic: Dopamine</p> <p>Brand: Intropin, Revimine</p> <p>Available: 200 mg= 5 ml</p>  | <p>Adult Dose: Inotropic Dose: IV: 5-10 mcg/kg/min.</p> <p>Pressor dose: IV: 10- 20mcg/kg/min. Max: 50mcg/kg/min. (adjust dose according to response) increase by 1 to 4 mcg/kg/min at 10 to 30 min. intervals</p> <p>Preparation: 1 ampule Dopamine 200mg = 5 ml dilute with 45 ml Normal Saline to make a total of 50 ml use syringe pump. Adjust the dose</p> | <p>Action: Action is dose related; >10mcg/kg/min during hypotension will causes mainly alpha stimulation with renal vasoconstriction, which in turn increases cardiac output, raises blood pressure and improves renal blood flow</p> <p>5-10mcg/kg/min stimulates dopaminergic beta adrenergic receptors, producing cardiac stimulation and renal vasodilation.</p> <p>Classification:</p> | <p>Indication: Hypotension Bradycardia Cardiogenic shock in infarction</p> <p>Contraindication : Patient with Ventricular Fibrillation, Tachydysrhythmi as Hypertension Hypersensitivity to Dopamine Pheochromocyto ma</p> <p>Caution: In patient on MAO inhibitors with occlusive vascular disease, pregnant and children.</p> | <p>Adverse Effect:</p> <p>Resp: Dyspnea</p> <p>CV: Tachydysrhythmias Hypertension/ Hypotension Acute MI Peripheral vasoconstriction</p> <p>GI: Nausea and Vomiting</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration) Blood is not a substitute for blood or fluid volume deficit. If deficit occurs, replace fluid deficit first before giving medications.</p> <p>During infusion, frequently monitor ECG, BP, PR,Urine Output and color and temperature of the limbs.</p> <p>If diastolic pressure rises sharply decrease perfusion rate and watch out carefully for further signs of vasoconstriction unless such action is desired.</p> <p>Check for urine output, If urine flow is decreased without</p> |




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| | according to doctor's instructions. | Inotropic agent Sympathomimetic Adrenergic Agonist agent | | | hypotension, notify physician. Continue patient monitoring and notify doctor if patient's condition deteriorates. |
|--|-------------------------------------|--|--|--|--|

| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|---|---|--|--|
| Generic: Dobutamine Hydrochloride Brand: Dobutrex Available: 250mg=5ml  | Adult Dose: 2-20 mcg/kg/min Preparation: Available: 250mg=5ml dilute with 45ml normal Saline or 5% Dextrose to make total 50 ml use syringe pump adjust the dose according to patient's BP doctor's order Fill syringe with the required amount then inject patient directly through IV as prescribed need to dilute with Normal Saline | Action: Stimulates Beta 1-Adrenergic receptors, Increases contractility and heart rate. Little effect on Beta 2 and Alpha receptors. Classification: Inotropic with Sympathomimetics Adrenergic Agonist agent | Indication: Congestive Heart Failure (CHF) Short Term treatment of cardiac decompensation in organic heart diseases Contraindication : Tachydysrhythmias as Idiopathic Hypertrophic Subaortic Stenosis Hypovolemia (need to correct before using Dobutamine) | Adverse Effect: CV: Tachycardia, Tachydysrhythmias, Anginal Pain, VT, VF, HTN, Nausea and Vomiting, Ischemia, AMI, headache. | Keep crash trolley on standby in case of emergencies Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration) During infusion, monitor ECG, BP, PR, Urine Output and adjust the dose and rate accordingly. Hypovolemia should be corrected first before starting Dobutamine During interaction with Beta adrenoceptor blocking drugs so should not be administered together. Record intake and output |



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| | | | <p>Shock with BP <100</p> <p>Poison induced shock</p> <p>Hypersensitivity to Dobutamine or sulfites.</p> <p>Caution: When use in Acute MI</p> | | <p>Monitor glucose in diabetic patients</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> <p>Incompatibilities: Do not mix with sodium Bicarbonate and other strong alkaline solutions.</p> |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|---|---|---|---|--|
| <p>Generic: Digoxin</p> <p>Brand: Lanoxin Digoxin Lanoxicap</p> <p>Available: 0.5 mg=2ml</p> | <p>Adult Dose: IV: for rapid digitalization, (AFib/Aflutter/PSVT) 0.5-1mg over 5 min.</p> <p>Additional dose of 0.1 to 0.3mg IV every 4 hrs as needed and as tolerated for 24 hrs</p> <p>PO: 0.75 mg-1.5mg over 24 hrs</p> | <p>Action: Inhibits the sodium Potassium ATP phases. Increases cardiac contraction/ output and decreases heart rate.</p> <p>Classification: Cardiac glycosides Antiarrhythmic</p> | <p>Indication: Atrial fibrillation/flutter PSVT for rate control (rarely used) Mild to moderate Heart failure (oral dose)</p> <p>Contraindication : Hypersensitivity to the drug or its components heart block,</p> | <p>Adverse Effect: CV: Arrhythmias, heart failure and hypotension</p> <p>CNS: Agitation, dizziness, fatigue, generalized weakness, headache, malaise</p> <p>GI: Anorexia, diarrhea, nausea, vomiting</p> <p>Toxicity: VT, ↑K+</p> <p>Life Threatening: Arrhythmias</p> | <p>Keep crash trolley on standby in case of emergencies. Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration) Before each dose assess apical pulse, and check pulse for full minute, record and report changes in rate or rhythm. Withhold drug and contact doctor if pulse is ≤ 60 min or > 100 (adults)</p> <p>Alert: Excessive slowing of the pulse rate (60 beats/min or less)</p> |




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|  | <p>in divided doses</p> <p>Maintenance: 125-250 mcg daily. Heart failure 62.5-125 mcg once daily</p> <p>Preparation: Fill a syringe with 0.5mg=2ml of the drug give patient the prescribed dose as slow IV push over 5 mins. (no need to dilute)</p> | | <p>complete/2nd degree VF, VT, WPW syndrome</p> | <p>Caution: In renal failure and those with digitalis induced toxicity and Ventricular Tachycardia</p> | <p>may be a sign of digitalis toxicity. Withhold drug and notify prescriber. If these occur, check blood pressure and obtain a 12-lead ECG.</p> <p>Patients with hypothyroidism are sensitive to cardiac glycosides and may need larger doses.</p> <p>Injection must be given slowly and protect injection from light Measure intake and output and daily weight continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|---|--|---|--|--|
| <p>Generic: Calcium Gluconate</p> <p>Brand: Kalcinate</p> <p>Available: Ca Gluconate 1g=10 ml =10% IV infusion</p> <div data-bbox="78 734 380 829" style="background-color: yellow; border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>Caution: Concentrate electrolyte</p> </div> <div data-bbox="168 869 369 1340" style="text-align: center;">  </div> | <p>Adult Dose: IV: 250-500 mg q 10 min. PRN</p> <p>Preparation: Fill syringe with 1g=10 ml Calcium add 20 ml NSS to make total 30 ml IV push slowly</p> | <p>Action: Maintains cardiac function</p> <p>Reduce cardiac acidity</p> <p>Classification: Electrolyte replacement, Antacid, Calcium Product</p> | <p>Indication: Emergency treatment for hyperkalemia and hypermagnesemia, Over dose with calcium channel blockers</p> <p>Antidote of Magnesium Sulfate</p> <p>Contraindication: Ventricular Fibrillation Metastasis bone disease Renal colic and hypercalcemia Digoxin toxicity</p> | <p>Adverse Effects: CV: Slows heart rate Peripheral vasodilation Hypotension VF arterial spasm</p> <p>Life Threatening: Cardiac Arrest</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>During IV administration monitor ECG to detect evidence of hypercalcemia (decreased QT interval associated with inverted T waves)</p> <p>Administer IV calcium slowly through a small bore needle into a large vein to prevent possibility of extravasations and necrosis.</p> <p>Do not mix with or inject in same tubing as Sodium Bicarbonate (NaHCO3) to prevent precipitate</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |



| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|--|--|---|--|---|--|
| <p>Generic: Aspirin</p> <p>Brand: Aspirin Aspilo</p> <p>Available:</p> <p>Tablets: 81 mg 300 mg</p>  | <p>Adult Dose: AMI and Acute Coronary Syndrome (ACS); 300 mg PO Stat</p> <p>Prophylaxis for Myocardial Infarction; 81 mg/day</p> <p>Antipyretic; 300 mg PO</p> <p>Preparation: ACS: Give orally 300 mg tab preferably chewed</p> <p>Long term use: As prescribed</p> | <p>Action: Decreases platelet aggregation by inhibiting prostaglandin synthesis.</p> <p>Also have Antipyretic effects; acts in the thermoregulatory center of the hypothalamus</p> <p>Classification: Anti-platelet</p> | <p>Indication: Reduction of risk of death in non- fatal MI in patients with history of Ischemic Heart Disease (IHD)</p> <p>MI prophylaxis</p> <p>Fever Inflammatory conditions; rheumatic fever, arthritis etc.</p> <p>Pain: mild to moderate</p> <p>Contraindication : Allergy to Salicylates /NSAID any condition that may increase risk of bleeding with Aspirin, low</p> | <p>Adverse Effects: Aspirin Intolerance: Exacerbation of bronchospasm</p> <p>GI: Gastric irritation (nausea, heartburn, epigastric discomfort), hepatotoxicity</p> <p>Hematologic: Occult blood loss, haemostatic defects</p> <p>Hypersensitivity: Anaphylactic shock</p> <p>Salicylism: Dizziness, tinnitus, difficulty hearing, nausea</p> <p>Caution: G6PD Asthma Uncontrolled Hypertension Hepatic Impairment</p> | <p>Take history before administering the drug and ensure there is no contraindications</p> <p>Check doctor's order and administer exactly as prescribed</p> <p>Give drug with food or after meals if suspecting GI upset.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates</p> |



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| | | | <p>Platelets, haemorrhagic states, coagulation defects, haemophilia, peptic ulcer, Vitamin K deficiency, Reye's Syndrome etc.</p> <p>Children under 16yrs unless specified</p> | |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|--|---|--|--|---|
| <p>Generic: Hydrocortisone Sodium Succinate</p> <p>Brand: Solu-cortef</p> <p>Available: 100mg per vial</p> | <p>Adult Dose: IV: 100-200 mg IV q 2-6 hours, dose varies with disease</p> <p>Preparation: 100 mg dilute with 2ml Normal Saline, Give direct IV push slowly.</p> | <p>Action: Anti-inflammatory, Immunosuppressive (Glucocorticoid) and Salt Retaining (Mineralocorticoid) It enters target cells and binds to cytoplasmic receptors, initiating many complex reactions resulting in the above.</p> | <p>Indication: Allergic states-severe or incapacitating allergic conditions Status Asthmaticus Short term inflammatory and allergic disorders Dermatologic disease and autoimmune disorders</p> | <p>Adverse Effect: CV: hypotension and shock CNS: vertigo and headache GI: peptic or esophageal ulcers Hematologic: Na and fluid retention, hypokalemia.</p> | <p>Keep crash trolley on standby in case of emergencies.</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>Monitor blood sugar regularly because it can cause hyperglycemia</p> |




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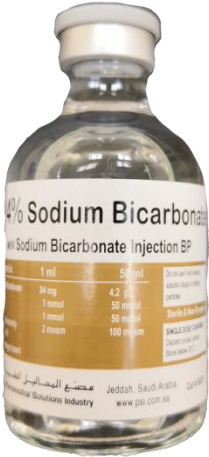
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|  | | <p>Classification: Corticosteroid (Short Acting), Glucocorticoid, Adrenal Cortical, Steroid Hormone</p> | <p>Adrenal Insufficiency</p> <p>Contraindication: Hepatitis B, vaccine or varicella, and antibiotic resistant infections, Immunosuppressant.</p> <p>Caution: Patients with kidney disease (risk of edema), cirrhosis, recent GI surgery, active or latent peptic ulcer, inflammatory bowel disease, surgery</p> | <p>Hypersensitivity: Anaphylactoid or hypersensitivity reactions</p> <p>Musculoskeletal: Muscle weakness</p> <p>Other: Immunosuppressant, suppression of hypothalamic-pituitary adrenal axis</p> | <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |
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| Drug Name | Dosage and Route | Action/ Classification | Indication/ Contraindication | Adverse/Side Effects & Life Threatening | Nursing Responsibilities |
|---|---|--|---|--|---|
| <p>Generic: Sodium Bicarbonate</p> <p>Brand: Sodium Bicarbonate</p> <p>Available: 8.4% 50mEq/50 ml 1 mEq/1ml</p> | <p>Adult Dose: Urinary Alkalinizer IV 2-5 mEq/kg as a 4-8 hours infusion</p> <p>In Metabolic Acidosis 2-5 mEq over 4-8 hours IV dose adjusted according to pH, base deficit fluid limits and patient response. Preparation: IV Infusion: Add desired</p> | <p>Action: Short acting systemic antacid and alkalinizing agent. Rapidly neutralize gastric acid</p> <p>Classification: Fluid and electrolyte balance agent, antacid</p> | <p>Indication: Management of Metabolic acidosis</p> <p>Used to alkalinize urine and promote excretion of certain drugs in over dosage saturation (Phenobarbital, Aspirin)</p> <p>Contraindication: Metabolic or Respiratory Alkalosis</p> | <p>Adverse Effect:</p> <p>CV: edema, Fluid and electrolytes: metabolic alkalosis</p> <p>Neuro: Tetany</p> <p>Life Threatening: Pulmonary edema</p> | <p>Keep crash trolley on standby in case of emergencies</p> <p>Connect the patient to the cardiac monitor; (Check vital signs: SPO2, RR, HR, BP before, during and after administration)</p> <p>In Metabolic acidosis: Monitor patient closely by observations of clinical conditions, measurements of</p> |





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|  | <p>amount (8.4% 50mEq/50ml=1mEq/ml) and dilute in an equal amount of compatible IV solution (5%DW for injection or NS) usually 2-5 mEq/kg over 4-8 hrs. Do not exceed 50mEq/hr</p> | | <p>Hypocalcemia Excessive chloride loss</p> <p>Renal Failure: Use cautiously in congestive heart failure and renal insufficient</p> | <p>acid base status (blood pH, PO₂, PCO₂, HCO₃) Observe signs of alkalosis</p> <p>Observe and report signs and symptoms of improvement or reversal of metabolic acidosis. Patient on Urinary Alkalinizer: Monitor urinary pH as a guide dosage.</p> <p>Flush the line before and after with NS. Severe tissue damage can occur with extravasation.</p> <p>Continue patient monitoring and notify doctor if patient's condition deteriorates.</p> |
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Third Drawer

| NAME OF ITEMS | USES AND INDICATION | HOW TO USE | COMPLICATION |
|--|---|---|---|
| <p>Surgical Gloves Various Sizes</p>  | <ol style="list-style-type: none"> used as a quick TQ for cannulation or for securing the devices (IV tube, NGT, catheters) Wound Irrigation CPR | <ol style="list-style-type: none"> Open sterile packaging by peeling open the top seam and pulling down. Place inner package on working surface and open up to see right and left gloves. Start with dominant hand first. Open packaging. Pick up glove for dominant hand by touching the inside cuff of the glove. Do not touch the outside of the glove. Pull glove completely over dominant hand. Insert gloved hand into the cuff of the remaining glove. Pull remaining glove on non-dominant hand and insert fingers. Adjust gloves if necessary. Once gloves are on, interlock gloved hands and keep at least six inches away from clothing, keeping hands above waist level and below the shoulders. | <p>Latex allergies and respiratory complications.</p> |



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| | |  <p>6. To remove gloves, grasp the outside of the cuff or palm of glove and gently pull the glove off, turning it inside out and placing it into gloved hand.</p> <p>7. Take ungloved hand, place fingers inside the other glove, and pull glove off inside out.</p> <p>8. Perform hand hygiene.</p> | |
| <p>I.V Administration Set</p>  | <p>1. Vascular access for the administration of drugs and/ or fluids (life-saving medications)</p> <p>2. Allows administration blood components and maintains IV access to the patient</p> | <p>1. Sterile spike: Connects the tubing into the IV bag.</p> <p>2. Drip chamber: Used to observe flow of IV fluids and / or to calculate drops per minute.</p> <p>3. Back-check valve: Prevents fluid or medication from travelling up the IV.</p> <p>4. Access ports: Used to infuse secondary medications and give IV push medications.</p> <p>5. Roller clamp: Used to regulate the speed of, or to stop or start, a gravity infusion.</p> <p>6. Extension set: 10 to 20 cm IV tubing attached to IV</p> | <p>Complications of gaining I.V. may include infiltration, hematoma, an air embolism, phlebitis, extravascular drug administration, and intraarterial injection. Intraarterial injection is more rare, but as threatening.</p> |



cannula. Helps to reduce micro-movements at IV insertion sites and protects from BBF exposure during IV tubing changes.



7. Slide clamps: Used to stop the infusion. Are needed to open and close IV infusion pump.

* Needleless cap: Added to the distal end of all extension sets of all lumens of VADs to prevent backflow of blood and BBF exposure to healthcare provider. Also added to indwelling subcutaneous devices (butterflies) to allow needleless access when administering medications



** Volume control set: A type of reservoir that holds a controlled volume of fluid from the IV bag. Limits volume of IV fluids or medications able to infuse into the patient. Often used in pediatrics. IV fluids are attached above the buretrol and refilled manually as the volume decreases.


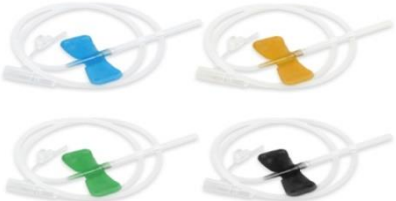


Crash Cart Study Guide

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Effective Date: April 2022

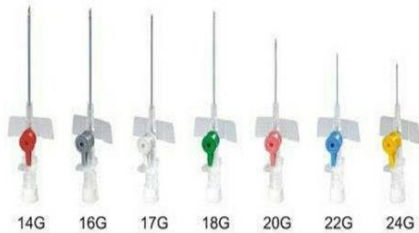
Review Date: April 2025

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| <p>Micropore Plaster 2.5cm</p>  | <ol style="list-style-type: none"> 1. To secure gauze pads or wraps 2. to protect catheter sites and wounds 3. To secure devices to the skin | | <p><u>No complication</u></p> |
| <p>Mini Vein Sets Various Sizes</p>  | <ol style="list-style-type: none"> 1. Venipuncture 2. Butterfly needle allows IV fluids to be infused to help rehydrate patient and restore his fluid levels. 3. Administering medication | <ol style="list-style-type: none"> 1. Wash hands with soap and water or hand sanitizer and apply gloves 2. Place a tourniquet (usually a stretchy, rubber band) around a location, usually on patient arm. 3. Identify a vein and clean the area off with an alcohol wipe. 4. Insert a small, hollow needle into the vein. You should see blood coming through the needle and into a collection tube or syringe. 5. Remove the tourniquet and hold gentle pressure on the venipuncture site. Sometimes, they'll place a bandage over the site. | <p>Small risk of infection developing at the injection site.</p> |



I.V Cannula

Various Sizes



allows administration of fluids, medications, blood, and blood components and maintains IV access to the patient

- Don your gloves
- Clean the puncture site with the alcohol swab and allow to air dry
- Apply the tourniquet and do not repalpate the cleaned skin
- Placing traction on the skin below the intended puncture site, insert the cannula with the bevel up at an angle of 30o into the puncture site
- Advance the cannula and observe flashback
- Hold the needle introducer still whilst advancing the cannula forward, over the needle and fully into the vein
- Release the tourniquet and dispose the needle into the sharps bin
- Connect your bionector to the cannula
- Secure the cannula in place with the sterile dressing
- Ensure not to cover the puncture site with the tape when securing down, as this can cover up any possible phlebitis developing
- Flush the bionector and cannula with 5ml of saline
- No resistance should be felt
- Check for any signs of extravasation / tissuing around the cannula site. Remove cannula if suspected
- Securing the cannula with Tegaderm
- Discard all waste into the correct disposal bins and ensure the patient is comfortable
- Remove your gloves and decontaminate your hands

- Peripheral IV catheter complications can result from the catheter (infection or phlebitis) or from the solution (circulatory overload, infiltration, sepsis, or allergic reaction)
- mild pain at the insertion site
- blood clot formation
- bleeding
- bruising






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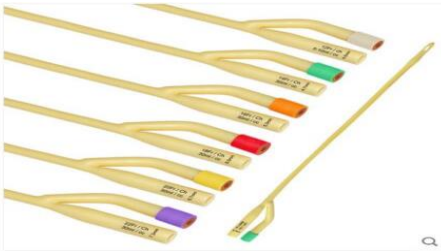
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| <p>Disposable. Syringes Various Sizes</p>  <p>Disposable. Syringes Various Sizes</p> | <ol style="list-style-type: none"> 1. Used to inject fluid/blood into, or withdraw fluid/blood from the body, 2. Administer medication 3. To check NGT placement 4. to inject sterile water to fill balloon of Foleys Catheter | | <p>Reuse of needles and syringes has caused spread of diseases, especially HIV and hepatitis</p> |
| <p>Disposable Needle Various Sizes</p>  | <ol style="list-style-type: none"> 1. Used to inject drugs (medication) under the skin | | <p>Reuse of needles and syringes has caused spread of diseases, especially HIV and hepatitis</p> |
| <p>Sterile Gauze Pack</p>  | <ol style="list-style-type: none"> 1. Sterile gauze is the basic tool used to stop bleeding and keep wounds clean (Wound Protection). 2. It treats small to medium cuts, burns, scrapes, and other wounds (Fluid Absorption). It also protects the area from dirt and debris | <ol style="list-style-type: none"> 1. Clean the wound thoroughly and then put the gauze pad over it. Wrap the gauze around the wound by starting below the wound, working your way upward. Do not wrap the wound too tightly. This might cause the gauze pad to stick to the wound. 2. Secure the outer gauze with medical tape | <p><u>No complication</u></p> |



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| | <p>that can cause wounds to get infected.</p> | | |
| <p>Dressing Set (Disposable)</p>  | <p>A sterile dressing is used to:</p> <p>(1) Protect the wound from bacteria in the environment.</p> <p>(2) Protect the environment from bacteria in the wound.</p> <p>(3) Absorb drainage.</p> <p>(4) Used to clean genital area during insertion of urinary catheter</p> | <ol style="list-style-type: none"> 1. Perform hand hygiene, gather supplies, check equipment for sterility, and gather additional supplies (gauze, sterile cleaning solution, sterile gloves, etc.). 2. Place package on clean, dry, waist-level table. 3. Remove the outside sterile packaging and discard. 4. 4. Grab the outer surface's outermost tip (corner of folded drape) and open the flap away from you. 5. Grab the side flaps and open outwards, and let it lie flat on the table. 6. Grasping the outermost corner, pull the last flap toward you, and lay it flat on the table. 7. Using sterile forceps, rearrange sterile equipment on the sterile field in order of usage. 8. Supplies can be opened (following packaging directions), then gently dropped onto the sterile field. 9. Add solution to the sterile tray by pouring the solution carefully into the receptacle: <ul style="list-style-type: none"> Verify solution and expiry date. Open cap and place face up on non-sterile surface. Hold bottle two inches above receptacle and pour the required amount slowly and without | <p><u>No complication</u></p> |



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| | | <p>splashing. If bottle is multi-use, recap and label it with the date and time of opening. Most sterile solutions are good for 24 hours.</p> | |
| <p>Tourniquet</p>  | <p>A tourniquet is used by the phlebotomist to assess and determine the location of a suitable vein for venipuncture.</p> <p>Tourniquets are used in an emergency situation to temporarily constrict and control blood flow. A tourniquet should only be used on arms and legs and looks like a strap with a buckle and a long, skinny handle.</p> | <ol style="list-style-type: none"> 1. Place the tourniquet high above where you're trying to inject, and tighten it gently. 2. Give veins a minute to fill up with blood and dilate. 3. Once the needle is in the vein, release the tourniquet. If you push the plunger before releasing the tourniquet, the shot may burst the vein or cause backflow into the surrounding tissues. 4. If you place the tourniquet high on patient's arm with the release clip facing inward, you can simply press the clip between patient's arm to release it with ease. | <p>A prolonged tourniquet time may lead to blood pooling at the venipuncture site, a condition called hemoconcentration. Hemoconcentration can cause falsely elevated results for glucose, potassium, and protein-based analytes such as cholesterol.</p> |
| <p>Foleys Catheter F Various Sizes</p>  | <ul style="list-style-type: none"> • To drain the bladder prior to, during, or after surgery • For investigations • To accurately measure the urine output • To relieve retention of urine • To relieve urinary incontinence when no other | <ul style="list-style-type: none"> • Perform hand hygiene • Place patient in supine position with knees bent and hips flexed • If soiling evident, clean genital area • Perform hand hygiene • Open dressing pack (aseptic field) and prepare equipment needed using aseptic technique • Pour sterile normal saline onto tray • Perform aseptic hand wash and don sterile gloves | <ul style="list-style-type: none"> • Urethral injury may occur from trauma sustained during insertion or balloon inflation in incorrect position: it is very important to ensure the catheter is in the bladder before inflating the |




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| | <p>means is practical</p> | <ul style="list-style-type: none"> • Apply sterile drapes/towel • <u>For Female Patients:</u> Separate labia with one hand and expose urethral opening. • Using swabs held in forceps in the other hand clean the labial folds and the urethral opening. Move swab from above the urethral opening down towards the rectum. Discard swab after each urethral stroke into waste bag or designated waste area. • Lubricate catheter • Insert catheter into the urethral opening, upward at approximately 30 degree angle until urine begins to flow. • Inflate the balloon slowly using sterile water to the volume recommended on the catheter. ALWAYS ensure urine is flowing before inflating the balloon. • Withdraw the catheter slightly until resistance is felt and attach to drainage system • Remove gloves and perform hand hygiene • Secure the catheter to the thigh with either a catheter securement device or tape • Clean trolley and dispose of used articles into yellow biohazard bag • Perform hand hygiene • <u>For Male Patient:</u> • Lift the penis and retract the foreskin if non-circumcised. Do not force the foreskin back. A sterile gauze swab can be used to hold the penis. • Using other hand, clean the urethral opening with | <p>balloon, this can be confirmed by visualizing the stream of urine prior to balloon inflation.</p> <ul style="list-style-type: none"> • Haemorrhage • False passage (catheter pushed through urethral wall): The risk of false passage is actually higher when using a smaller catheter; ensure catheter size utilized is appropriate for patient's age and size. • Urethral strictures following damage to urethra. This may be a long term problem • Infection <ul style="list-style-type: none"> ○ To minimize risk of infection insertion of IDC's must be performed using surgical aseptic technique with single use sterile gloves. ○ Regular hygiene should be maintained whilst IDC is in situ. ○ Where possible avoid |
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| | | <p>swabs held in forceps. Use a circular motion from the urethral opening to the base of the penis. Discard swab into waste bag or designated waste area.</p> <ul style="list-style-type: none">• Hold the penis with slight upward tension and perpendicular to the patient's body. Insert the catheter.• When the first sphincter is reached (at level of pelvic floor muscles) gently bring the penis down to face the child's toes, apply constant gentle pressure. If resistance is felt the following strategies should be considered:• Remove the catheter and utilize a 2nd tube of lubricant• Increase traction on penis and apply gentle pressure on the catheter• Gently rotate the catheter. <p>If unable to pass the catheter seek assistance from treating medical team. DO NOT use force as you may damage the urethra.</p> <ul style="list-style-type: none">• Advance the catheter and gently insert it completely into the urethra until the connection portion.• ALWAYS ensure urine is flowing before inflating the balloon.• Inflate the balloon slowly using sterile water to the volume recommended on the catheter.• Withdraw the catheter slightly till resistance is felt and attach to drainage system• Reposition the foreskin if applicable | <p>disconnecting the IDC circuit to minimize risk of contamination</p> <ul style="list-style-type: none">○ Monitor for and report signs of infection including fever, offensive smelling urine, unexplained blood or cloudy urine. Psychological trauma Paraphimosis due to failure to return foreskin to normal position following catheter insertion:• To minimise risk, remember to replace the foreskin to normal position in non-circumcised patients and check at catheter care or nappy change that the foreskin is in place. |
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| | | <ul style="list-style-type: none"> • Remove gloves and perform hand hygiene • Secure the catheter to the thigh with either catheter securement device or tape • Clean trolley and dispose of used articles into yellow biohazard bag • Perform hand hygiene | |
| <p>Ryles NGT Tube Various Sizes</p>  <p>8FG Blue 10FG Black 12FG Grey 14FG Green 16FG Orange 18FG Red 20FG Yellow</p> | <p>To drain gastric contents, decompress the stomach, obtain a specimen of the gastric contents, or introduce a passage into the GI tract.</p> <p>To treat gastric immobility, and bowel obstruction.</p> <p>Drainage and/or lavage in drug overdosage or poisoning.</p> <p>In trauma settings, NG tubes can be used to aid in the prevention of vomiting and aspiration, as well as for assessment of GI bleeding.</p> <p>NG tubes can also be used for enteral feeding initially.</p> | <ul style="list-style-type: none"> • Verify the physician's order for the type of tube to be inserted. • Gather and prepare the equipment. • Perform hand hygiene. • Confirm the patient's identity using at least two patient identifiers. • Explain the procedure to the patient (if the patient is conscious) to ease anxiety and promote cooperation. Inform her that she may experience some nasal discomfort, that she may gag, and that her eyes may water. Emphasize that swallowing will ease the tube's advancement. • Agree on a signal that the patient can use if she wants you to stop briefly during the procedure. • Provide privacy and assist the patient into the high Fowler position, unless contraindicated. • Stand at the patient's right side if you're right-handed or at her left side if you're left-handed to ease insertion. • Drape the towel or fluid-impermeable pad over the patient's chest to protect her gown and bed linens from spills. • Offer tissues, and have the patient gently blow her nose to clear her nostrils. | <p>The main complications of NG tube insertion include aspiration and tissue trauma. Placement of the catheter can induce gagging or vomiting, therefore suction should always be ready to use in the case of this happening.</p> |




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| | | <ul style="list-style-type: none">• Place the facial tissues and emesis basin well within the patient's reach.• Help the patient face forward with her neck in a neutral position.• Determine the length of the tube to be inserted to reach the stomach; hold the end of the tube at the tip of the patient's nose. Extend the tube to the patient's earlobe and then down to the xiphoid process. Mark this distance on the tubing with the tape. (Average measurements for an adult range from 22" to 26" [56 cm to 66 cm].) It may be necessary to add 2" (5 cm) to this measurement in tall individuals to ensure entry into the stomach.• Put on gloves to comply with standard precautions and other personal protective equipment, as needed, if splashing of body fluids is likely.• Determine which nostril will allow easier access; use a penlight and inspect for a deviated septum or other abnormalities. Ask the patient whether she ever had nasal surgery or a nasal injury. Assess airflow in both nostrils by occluding one nostril at a time while the patient breathes through her nose. Choose the nostril with the better airflow. If the patient can respond, ask whether she has previously undergone NG tube placement. If she has, then ask which nostril is better for insertion.• Administer viscous lidocaine 2% (for oral use) or nebulized lidocaine, as ordered, following safe medication administration practices. Ask the patient to sniff and swallow to anesthetize the nasal and oropharyngeal mucosa. | |
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| | | <ul style="list-style-type: none">• To minimize injury to the nasal passages, lubricate the first 3" (7.6 cm) of the tube with a water-soluble lubricant. Using a water-soluble lubricant prevents lipoid pneumonia, which may result from aspiration of an oil-based lubricant or from the tube accidentally slipping into the trachea.• Instruct the patient to hold her head straight and upright.• Grasp the tube with the end pointing downward, curve it if necessary, and carefully insert it into the more patent nostril.• Aim the tube downward and toward the ear closer to the chosen nostril. Advance it slowly to avoid pressure on the turbinates and resultant pain and bleeding.• When the tube reaches the nasopharynx, you'll feel resistance. Instruct the patient to lower her head slightly to close the trachea and open the esophagus. Then rotate the tube 180 degrees toward the opposite nostril to redirect it so that the tube won't enter the patient's mouth.• Unless contraindicated, offer the patient a cup or glass of water with a straw. Direct her to sip and swallow as you slowly advance the tube to help the tube pass to the esophagus. (If you aren't using water, ask the patient to swallow.) Aim the tube downward and toward the ear closer to the chosen nostril. Advance it slowly to avoid pressure on the turbinates and resultant pain and bleeding.• Use a tongue blade and penlight to examine the patient's mouth and throat for signs of a coiled section of tubing (especially in an unconscious patient). | |
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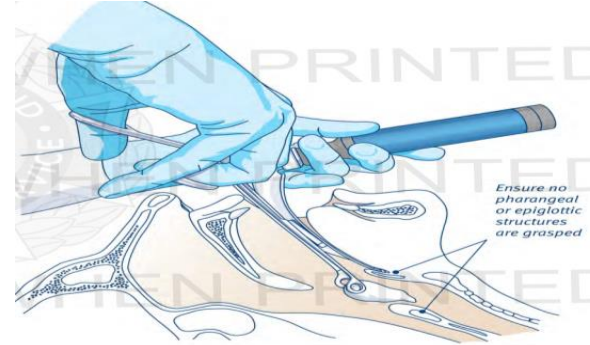
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| | | <p>Coiling may indicate an obstruction.</p> <ul style="list-style-type: none"> • Carefully advance the tube as the patient swallows, and watch for signs of respiratory distress, which may mean that the tube is in the bronchus and must be removed immediately. • Stop advancing the tube when the tape mark reaches the patient's nostril. • Use a variety of bedside methods to determine tube location during insertion: <ul style="list-style-type: none"> •1 Watch for signs of respiratory distress (coughing and dyspnea). •2 Aspirate secretions with a catheter-tip or bulb syringe, as shown below, and inspect the visual characteristics of the tube aspirate; fasting gastric secretions commonly appear grassy-green or clear and colorless •3 Anticipate an X-ray to verify placement; a properly obtained and interpreted X-ray is recommended to confirm placement of any blindly inserted NG tube before its initial use for feedings or medication administration. <p>Secure the NG tube to the patient's nose using a commercial securement device or tape. If you're using a commercial securement device, follow the manufacturer's application instructions</p> | |
| <p>Alcohol Swabs</p>  | <p>Uses of Alcohol Swabs:</p> <ol style="list-style-type: none"> a. first aid for minor cuts, b. clean skin before injection, c. disinfect, kill bacteria & clear objects, d. clean skin before | | |



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| | venipuncture for intravenous therapy or blood sampling | | |
| <p>Magills Forceps</p>  | <ol style="list-style-type: none">1. To guide a tracheal tube into the larynx or a nasogastric tube into the esophagus under direct vision.2. To remove foreign bodies for the airway/ pharynx.3. Aid passage of an endotracheal tube into the larynx4. To facilitate the insertion of an orogastric tube. | <ol style="list-style-type: none">1. Open mouth and inspect oral cavity2. Remove any dentures or removable3. Perform laryngoscope4. Suction as required.5. Grasp the forceps in the right hand with thumb and ring finger inserted into the holes  | <ol style="list-style-type: none">1. Trauma to the tissue surrounding the pharynx uvula and tongue.2. Manipulating a partially obstructed airway may cause the object to totally occlude the airway |
| | | <ol style="list-style-type: none">6. Insert the forceps (whilst closed) into the patient's mouth. | |



7. Under direct laryngoscopy, open and close the



Magill forceps to grasp the object that needs manipulation. Ensure that no pharyngeal or epiglottic structures are grasped as it will cause harm. Manipulate the object as required.



**Endotracheal Tubes With Cuff
Various Sizes**



Image for illustration only

- The endotracheal tube serves as an open passage through upper airway. The purpose of endotracheal intubation is to permit air to pass freely to and from the lungs in order to ventilate the lungs.

Laryngoscope technique

- Give medications if required
- Pre-oxygenate patient with high concentration oxygen for 3-5mins
- Position patient
 - Neck flexed to 15°, head extended on neck (i.e. chin anteriorly), no lateral deviation
- Stand behind the head of the patient
- Open mouth and inspect: remove any dentures/debris, suction any secretions
- Holding laryngoscope in left hand, insert it looking down its length
- Passing the tongue
 - Slide down right side of mouth until the tonsils are seen
 - Now move it to the left to push the tongue centrally until the uvula is seen
- Advance over the base of the tongue until the epiglottis is seen

Insertion technique

- Apply traction to the long axis of the laryngoscope handle (this lifts the epiglottis so that the V-shaped glottis can be seen)
- Insert the tube in the groove of the laryngoscope so that the cuff passes the vocal cords
- Remove laryngoscope and inflate the cuff of the tube with ~15ml air from a 20ml syringe
- Attach ventilation bag/machine and ventilate (~10 breaths/min) with high concentration oxygen and observe chest expansion and auscultate to confirm correct positioning
- Consider applying CO2 detector or end-tidal CO2

Upper airway and nasal trauma, tooth avulsion, oral-pharyngeal laceration, laceration or hematoma of the vocal cords, tracheal laceration, perforation, hypoxemia, and intubation of the esophagus. Inadvertent intubation of the right mainstem bronchus is reported in 3-9% of all intubations in adults. Aspiration rates are 8–19% in intubations performed in adults without anesthesia. Sinusitis, tracheal necrosis or stenosis, glottic edema, and ventilator-associated pneumonia may occur with prolonged use of endotracheal tubes.



monitor to confirm placement

- Secure the endotracheal tube with tape
 - if it takes more than 30 seconds, remove all equipment and ventilate patient with a bag and mask until ready to retry intubation



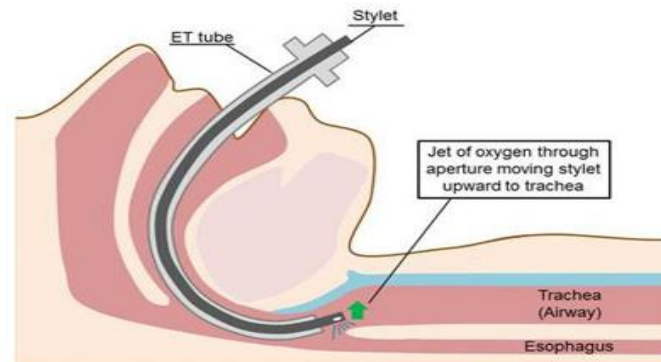


**Endotracheal(E.T) Tube Size: 4
MM**



1. Alters the shape of an ETT to facilitate intubation
2. Stiffens the ETT to aid passage into the trachea

- lubricate stylet with water soluble gel
- insert stylet into ETT
- bend the stylet into the desired shape
- optimal shape for intubation direct laryngoscopy is 'straight-to-the-cuff' with a 'hockey stick' bend at the cuff of no more than 35 degrees
- ETT is inserted from the right side of the patient's mouth to maximize your view and provide optimal control of the position of the tip of the endotracheal tube



1. Trauma due to protrusion of the stylet tip beyond the end of the ETT
2. Inadvertent removal of the ETT when removing the stylet



Oropharyngeal Airway (OPA) Various Sizes



1. Maintain airway patency
2. Bite block for intubated patients

1. Identify the correct OPA by measuring from the centre of the patient's incisors/ mouth to the angle of the jaw.
2. Insert OPA ensuring the concavity of the adjunct is facing the roof of the mouth.
3. Once a third of OPA has been inserted, rotate 180 degree over the tongue.

1. Airway trauma from OPA placement
2. Intolerance of OPA requiring removal
3. Can precipitate vomiting/aspiration in patient with intact gag reflex
4. Incorrect size or placement can potentially exacerbate airway obstruction

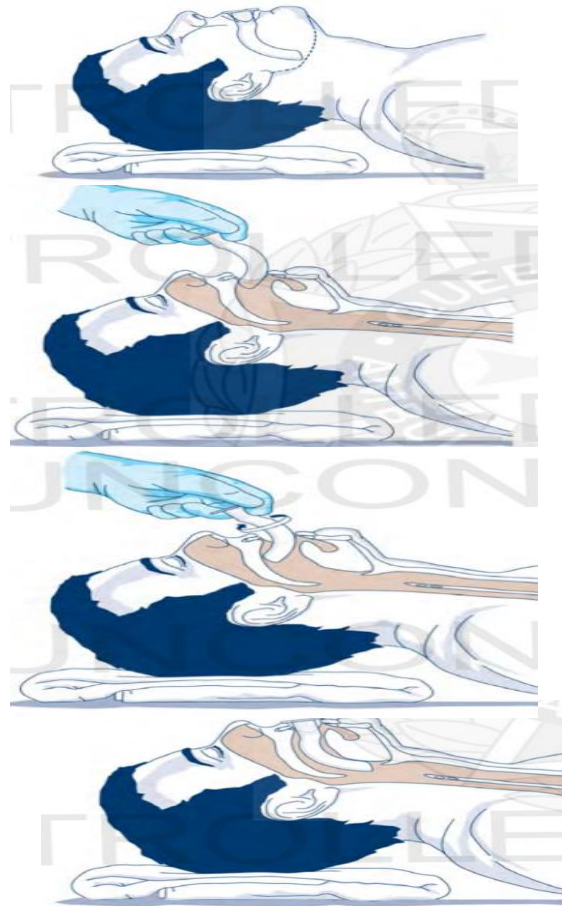


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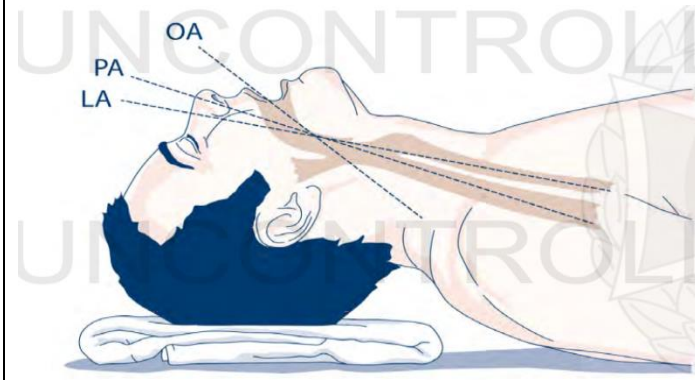




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| <p>K.Y Lubricating Jelly</p>  | <p>- Used to intubation: K-Y jelly can minimize the degree of surface trauma to the trachea and tracheal rings as the tube passes the vocal cords.</p> | | |
| <p>Razors</p>  | <p>If the patient has a hairy chest, remove the hair by using razor from necessary locations for self-adhesive defibrillation pad or paddle placement.</p> <p>If the patient has a hair in genital area removes the hair by using razor (in order to insert Foley catheter clearly).</p> | | <ul style="list-style-type: none"> • Irritant contact dermatitis. • Nicks/cuts. |
| <p>LaryngoscopyWith Blades</p>  | <ol style="list-style-type: none"> 1. Remove foreign objects from the throat 2. Collect tissue samples, 3. Perform laser treatment 4. Remove growths from the vocal cords. 5. Oral endotracheal tube insertion | <ol style="list-style-type: none"> 1. Position yourself for optimal visualization of the larynx. 2. Place the patient's head in the appropriate position to align the oral, pharyngeal and laryngeal axes <ul style="list-style-type: none"> - Infant: slight elevation of the shoulders. - Small child: slight extension of the head -Older child/adult: extension of the head (elevation of | <p>Laryngoscopy is usually safe, but there is a small risk of:</p> <ul style="list-style-type: none"> • Reactions to anesthesia • Bleeding in the throat • Infection • Hoarseness |



the heads may also be required)



3. Open the patient's mouth and insert the oral cavity.

4. Remove any dentures or removal plates as required.

5. Grip laryngoscope handle with left hand in a position to ensure optimal control and mechanical advantage.

6. Place the laryngoscope blade into the right side of the patient's mouth, gently sweep the tongue to the left and position the blade midline in the mouth.

7. if laryngoscope blade is difficult to position correctly , consider:

- Inserting the blade separately and reconnecting with the handle when in position: or

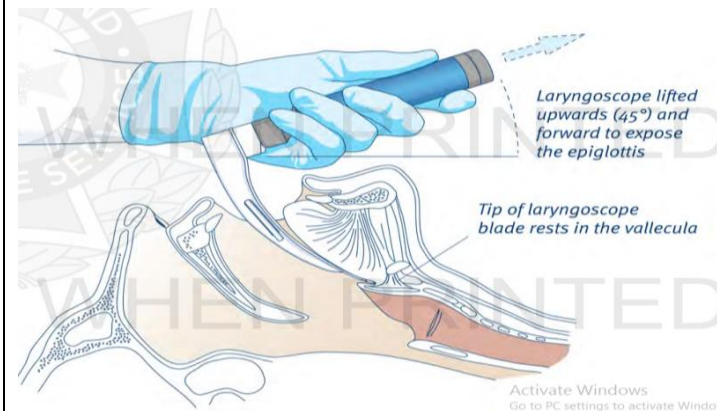


- inserting the laryngoscope blade while the handle is angled and once in the oral cavity, rotate the laryngoscope to the midline.

8. Move the laryngoscope blade progressively down the tongue identifying relevant anatomy.

9. Gently place the tip of the laryngoscope blade in the vallecula.

10. Lift the blade upwards and forward at 45 degree angle to expose the epiglottis.



11. Identify glottic structures (commences with the posterior cartilages and interarytenoid notch, before the glottis opening and the vocal cords come into view. If view of glottic structure is poor, consider suctioning and /or external laryngeal manipulation




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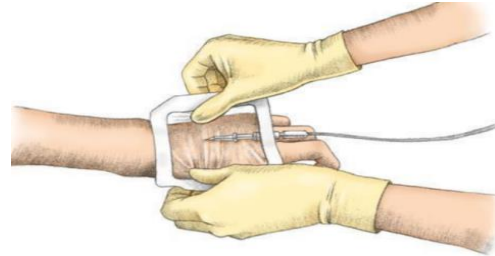

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| <p>Battery</p> | <p>Used for laryngoscope and torch</p> | | |
| <p>Scissor</p> | <p>Use to cut materials such as sutures, skin tissue, bandages, clothing and any other materials that need immediate access.</p> | | |
| <p>Torch</p> | <ol style="list-style-type: none"> 1. Intubation 2. To examine patient's eyes by shines a bright light into an unconscious patient's eye to check for brain death. If the pupil constricts, the brain is OK. 3. To check for any foreign body in mouth/nose | | |
| <p>Tegaderm</p>  | <p>Protect catheter sites and wounds</p> <ol style="list-style-type: none"> 2. To secure devices to the skin 3. Cannulation | <p>The central portion of the card may be removed, leaving the film suspended on a frame, which facilitates easy precise placement of the dressing. Once in position, the frame is removed and the film is lightly smoothed into position.</p> | <p>Skin irritation and hypersensitivity reactions.</p> |



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| <p>Suction Tube Various Sizes (14 - 16 FG)</p>  | <p>Removal of secretion from mouth, oropharynx, trachea, and bronchial tubes.</p> | <p>Nasotracheal Suctioning:</p> <ul style="list-style-type: none">• Before suctioning, determine whether your facility requires a practitioner's order, and obtain one if necessary.• Gather and prepare the equipment.• Perform hand hygiene.• Confirm the patient's identity using at least two patient identifiers.• Provide privacy.• Explain the procedure to the patient even if he's unresponsive. Tell him that suctioning usually causes transient coughing or gagging but that coughing is helpful for removing secretions. If the patient has been suctioned previously, summarize the reasons for suctioning. Continue to reassure the patient | <p>slow heart rate, known as bradycardia, is one of the most common suctioning complications.</p> |



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| | | <p>throughout the procedure to minimize anxiety, promote relaxation, and decrease oxygen demand.</p> <ul style="list-style-type: none">• Put on personal protective equipment, as needed to comply with standard precautions.• Assess the patient's vital signs, breath sounds, and general appearance to determine the need for suctioning, and establish a baseline for comparison after suctioning. Review the patient's arterial blood gas values and oxygen saturation levels if they're available.• If the patient's condition is unstable, attach him to a continuous cardiac monitor. Make sure that the alarm limits are set appropriately for the patient's current condition and that the alarms are turned on, functioning properly, and audible to staff.• Evaluate the patient's ability to cough and deep-breathe because these actions will help move secretions up the tracheobronchial tree.• Check the patient's history for contraindications, including a deviated septum; nasal polyps; nasal obstruction; nasal trauma; epistaxis; acute head, facial, or neck injury; laryngospasm; tracheal surgery; gastric surgery with anastomosis; coagulopathy; myocardial infarction; bronchospasm; or mucosal | |
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| | | <p>swelling.</p> <ul style="list-style-type: none">• Unless contraindicated, place the patient in semi-Fowler or high Fowler position to promote lung expansion and productive coughing.• Position yourself with your dominant hand toward the foot of the bed.• Remove the top from the normal saline solution or sterile water bottle.• Open the package containing the sterile solution container.• Using sterile technique, open the suction catheter kit and put on the gloves. If using individual supplies, open the suction catheter and the gloves, placing the clean glove on your nondominant hand and the sterile glove on your dominant hand.• Using your nondominant (nonsterile) hand, pour the normal saline solution or sterile water into the solution container.• Place a small amount of water-soluble lubricant on the sterile area of the catheter. Lubricant may be used to facilitate passage of the catheter during nasotracheal suctioning. | |
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| | | <ul style="list-style-type: none">• Place a sterile towel over the patient's chest, if desired, to provide an additional sterile area.• Using your dominant (sterile) hand, remove the catheter from its wrapper. Keep it coiled so it can't touch a nonsterile object. Using your other hand to manipulate the connecting tubing, attach the catheter to the tubing. If the practitioner orders a sputum specimen, connect the in-line specimen trap between the suction control valve and the suction tubing. (See the "Sputum collection by tracheal suctioning" procedure.)• Using your nondominant hand, set the suction pressure. 1Typically, pressure may be set between 100 and 150 mm Hg. 1Higher pressures don't enhance secretion removal and may cause traumatic injury. Occlude the suction port to assess suction pressure.• Dip the catheter tip in the saline solution to lubricate the outside of the catheter and to reduce tissue trauma during insertion.• With the catheter tip in the sterile solution, occlude the control valve with the thumb of your nondominant hand. Suction a small amount of solution through the catheter to lubricate the inside of the catheter, which facilitates passage of secretions through it. | |
|--|--|---|--|



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| | | <ul style="list-style-type: none">• Lubricate the tip of the catheter with the sterile, water-soluble lubricant to reduce tissue trauma during insertion.• Instruct the patient to take three to six deep breaths to help minimize or prevent hypoxia during suctioning.• Hyperoxygenate the patient with an appropriate oxygen delivery device, as indicated. If the patient is receiving oxygen, evaluate his need for preoxygenation. If indicated, instruct him to take three to six deep breaths while using his supplemental oxygen. (If needed, the patient may continue to receive supplemental oxygen during suctioning by leaving his nasal cannula in one nostril or by keeping the oxygen mask over his mouth.)• Disconnect the oxygen from the patient, if applicable.• Using your nondominant hand, raise the tip of the patient's nose to straighten the passageway and facilitate insertion of the catheter.• Insert the catheter into the patient's nostril while gently rolling the catheter between your fingers to help it advance through the turbinates.• As the patient inhales, quickly advance the catheter | |
|--|--|--|--|




| | | | |
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| | | <p>until you meet resistance. To avoid oxygen loss and tissue trauma, don't apply suction during insertion.</p> <ul style="list-style-type: none">• If the patient coughs as the catheter passes through the larynx, briefly hold the catheter still, and then resume advancement when the patient inhales.• After inserting the catheter, apply suction intermittently by removing and replacing the thumb of your nondominant hand over the control valve. Simultaneously use your dominant hand to withdraw the catheter as you roll it between your thumb and forefinger. This rotating motion prevents the catheter from pulling tissue into the tube as it exits, thus avoiding tissue trauma. Each suctioning event should be limited to 15 seconds to prevent hypoxia. 1• If applicable, resume oxygen delivery by reconnecting the source of oxygen and hyperoxygenating the patient's lungs before continuing to prevent or relieve hypoxia.• Observe the patient, and allow him to rest for a few minutes before the next suctioning. The timing of each suctioning and the length of each rest period depend on his tolerance of the procedure and the absence of complications. To enhance secretion removal, encourage the patient to cough between suctioning attempts. | |
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|--|--|--|--|
| | | <ul style="list-style-type: none">• Observe the secretions. If they're thick, clear the catheter periodically by dipping the tip in the saline solution and applying suction. Normally, sputum is watery and tends to be sticky. Tenacious or thick sputum usually indicates dehydration. Watch for color variations: White or translucent is normal, yellow or green may indicate infection, brown usually indicates old blood, and red indicates fresh blood. When sputum contains blood, note whether it's streaked or well mixed. Also, indicate how often blood appears. If the patient's heart rate and rhythm are being monitored, observe for arrhythmias. If arrhythmias occur, stop suctioning and ventilate the patient.• After suctioning, hyperoxygenate the patient by using a manual resuscitation bag or asking him to take six deep breaths.• Clear the connecting tubing by aspirating the remaining saline solution or water.• Remove and discard your gloves and the catheter in an appropriate receptacle.• Replace the suction equipment and supplies, as needed.• Remove other personal protective equipment, if worn. | |
|--|--|--|--|



| | | | |
|---|---|---|--|
| | | <ul style="list-style-type: none">• Perform hand hygiene.• Auscultate the patient's breath sounds bilaterally, obtain vital signs, monitor oxygen saturation level by pulse oximetry, and assess the patient's work of breathing, if indicated, to assess the procedure's effectiveness.• Clean and disinfect your stethoscope using a disinfectant pad.• Perform hand hygiene.• Document the procedure | |
| <p>Connectors Tapered Polypropylene I.D 5MM</p>  | <p>Used for connecting suction source to suction waste collection systems, suction catheters,</p> | | |



ECG Recording Paper



Performed routine examination method for determining heart conditions. It provides information pertaining to the heart rate, heart rhythm, and electrical activity of cardiac chambers and atria.

An ECG is helpful in diagnosing various cardiovascular diseases and in controlling the courses of disease.



5. Document History and Version Control

| Document History and Version Control | | | |
|--|---|--|--------------------|
| Version | Description of Amendment | Author | Review Date |
| 1 | Initial Release | Wafa Mohammed Al Wadhahi Mark Niño Yap Galang | April 2025 |
| Written by | Reviewed by | Approved by | |
| Wafa Mohammed Al Wadhahi Mark Niño Yap Galang | Dr. Preeti Srivastava Dr. Muna Al Shekaili Tahra Ahmed Al Balushi Ph. Sharifa Al Razaqi Huda Said Al Hadi | Dr. Bader Al Habsi | |

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Appendices

Appendix 1. IV Solutions Cheat Sheet

I.V. fluids, their contents, tonicities & pH:

| Solution | Glucose | Na ⁺ | K ⁺ | Ca ⁺⁺ | Cl ⁻ | Lactate | Tonicity | pH |
|-------------------|---------|-----------------|----------------|------------------|-----------------|---------|------------|-----------|
| 5% Dextrose | 50 | - | - | - | - | - | Isotonic | 3.5 – 6.5 |
| 10% Dextrose | 100 | - | - | - | - | - | Hypertonic | 3.5 – 6.5 |
| 0.9% NaCl | - | 154 | - | - | 154 | - | Isotonic | 4.5 – 7.0 |
| 0.45% NaCl | - | 77 | - | - | 77 | - | Hypotonic | 4.5 – 7.0 |
| 5% D + 0.9% NaCl | 50 | 154 | - | - | 154 | - | Hypertonic | 3.5 – 6.5 |
| 5% D + 0.45% NaCl | 50 | 77 | - | - | 77 | - | Hypertonic | 3.5 – 6.5 |
| Ringer's | - | 147 | 4 | 5 | 156 | - | Isotonic | 5.0 – 7.5 |
| Lactated Ringer's | - | 130 | 4 | 3 | 109 | 28 | Isotonic | 5.0 – 7.5 |

Some of the common I.V. solutions and their characteristics:

| Solutions | Indications | Advantages | Disadvantages | Considerations |
|----------------------|---|--|--|--|
| 5% Dextrose in water | To maintain water balance & to supply calories for cell metabolism | Inexpensive & readily available | * Causes red cell clumping (cannot be given with blood) * Incompatible with some medications * May cause water intoxication, hyponatremia or hyperglycemia | * Not the solution of choice in shock * Use only to establish an emergency I.V. line for drug administration |
| 0.9% NaCl | * Initial fluid & electrolyte replacement in all types of hypovolemia * Cardiac arrest | * Inexpensive & readily available * May be used as initial plasma expander while blood is being typed & matched | May cause diuresis, hypernatremia and acid-base imbalance | * Use cautiously in patients with heart failure or renal dysfunction * Monitor for signs & symptoms of fluid overload |
| Lactated Ringer's | * Initial fluid replacement in all types of hypovolemia * Cardiac arrest | * Inexpensive & readily available * Rarely causes adverse reaction | May lead to volume overload or congestive heart failure | * Use with caution in liver disease or anorexia * May induce hyponatremia with multiple infusions |



IV Solutions Cheat Sheet

LEARN MORE AT [NURSESLABS.COM/IV-FLUIDS/](https://www.nurseslabs.com/iv-fluids/)

Isotonic Solutions

Normal Saline Solution (NSS) (0.9% NaCl)

Osmolality

- 308 mOsm/L

Contains

- Water
- Sodium (154 mEq/L)
- Chloride (154 mEq/L)

Uses

- Isotonic solution of choice for expanding ECF volume.
- Infused to correct extracellular fluid volume deficit.
- Used alongside administration of blood products.
- Used to replace large sodium losses such as burn injuries and trauma.

Caution

- Should not be used for patients with heart failure, pulmonary edema, and renal impairment.

Dextrose 5% in Water (D5W)

Osmolality

- 252 mOsm/L

Contains

- Water
- Glucose (50g/L)

Uses

- Initially isotonic and provides free water when dextrose is metabolized (making it hypotonic).
- Expands the ECF and ICF, helpful in rehydrating and excretory purposes.
- Used to treat hypernatremia.

Caution

- Should NOT be used for fluid resuscitation because hyperglycemia can result. Should be avoided in clients at risk for increased intracranial pressure.

Lactated Ringer's Solution in 5% Dextrose

Other Names

- D5LRS
- LR
- Ringer's Lactate
- Hartmann Solution

Osmolality

- 273 mOsm/L

Contains

- Water
- Sodium (130 mEq/L)
- Potassium (4 mEq/L)
- Calcium (3 mEq/L)
- Chloride (109 mEq/L)
- Lactate (28 meq/L)

Uses

- Used to correct dehydration, sodium depletion, and replace GI tract fluid losses.
- Also used in fluid losses caused by burns, fistula drainage, and trauma.
- Often administered for patients with metabolic acidosis because it is an alkalinizing solution.

Caution

- Should not be given to patients who cannot metabolize lactate (e.g., liver disease, lactic acidosis). Used in caution for patients with heart failure and renal failure.

Ringer's Solution

Osmolality

- 273 mOsm/L

Contains

- Similar composition with Lactated Ringer's but without the lactate.

Uses

- Similar indications for Lactated Ringer's solution but without the contraindications related to lactate.

Nursing Considerations for Isotonic Solutions

- **Document baseline data.** Before infusion, assess the patient's vital signs, edema status, lung sounds, and heart sounds. Continue monitoring during and after the infusion.
- **Observe for signs of fluid overload.** Look for signs of hypervolemia such as hypertension, bounding pulse, pulmonary crackles, dyspnea, shortness of breath, peripheral edema, jugular venous distention, and extra heart sounds.
- **Monitor manifestations of continued hypovolemia.** Look for signs that indicate continued hypovolemia such as, decreased urine output, poor skin turgor, tachycardia, weak pulse, and hypotension.
- **Prevent hypervolemia.** Patients being treated for hypovolemia can quickly develop fluid overload following rapid or over infusion of isotonic IV fluids.
- **Elevate the head of the bed at 35 to 45 degrees.** Unless contraindicated, position the client in semi-Fowler's position.
- **Elevate the patient's legs.** If edema is present, elevate the legs of the patient to promote venous return.
- **Educate patients and families.** Teach patients and families to recognize signs and symptoms of fluid volume overload. Instruct patients to notify their nurse if they have trouble breathing or notice any swelling.
- **Close monitoring for patients with heart failure.** Because isotonic fluids expand the intravascular space, patients with hypertension and heart failure should be carefully monitored for signs of fluid overload.
- **Check integrity of IV Solution.** Solution should be clear with the container and seals intact. IV solutions are covered in overwrap, do not remove until ready for use. Check for minute leaks by squeezing the container firmly, if leaks are found, discard solution as sterility may be compromised.



IV Solutions Cheat Sheet

LEARN MORE AT [NURSESLABS.COM/IV-FLUIDS/](https://nurseslabs.com/iv-fluids/)

Hypertonic Solutions

Hypertonic Sodium Chloride Solutions

3% NaCl

- Sodium (513 mEq/L)
- Chloride (513 mEq/L)
- 1030 mOsm/L

5% NaCl

- Sodium (855 mEq/L)
- Chloride (855 mEq/L)
- 1710 mOsm/L

Uses

- Used in the acute treatment of severe hyponatremia and should only be used in critical situations to treat hyponatremia.
- Used in patients with cerebral edema.
- Some patients may need diuretic therapy to assist in fluid excretion.

Caution

- Should be infused at a very low rate to avoid risk of pulmonary edema.
- If administered in large quantities and rapidly, they may cause ECF excess and circulatory overload.

Dextrose 10% (D10W)

Other names

- Dextrose 10% in Water

Osmolality

- 505 mOsm/L

Contains

- Water
- Glucose (100g/L)
- 380 kcal/L

Uses

- Used in the treatment of ketosis of starvation and provides calories and free water.

Caution

- Should be administered using a central line if possible.
- Do NOT infuse using the same line as blood products as it can cause RBC hemolysis.

Dextrose 20% (D20W)

Other names

- Dextrose 20% in Water

Osmolality

- 660 mOsm/L

Contains

- Water
- Glucose (200g/L)

Uses

- Used as an osmotic diuretic that causes fluid shifts between various fluid compartments to promote diuresis.

Dextrose 50% (D50W)

Other names

- Dextrose 50% in Water

Osmolality

- 2523 mOsm/L

Contains

- Water
- Glucose (500g/L)

Uses

- Used to treat severe hypoglycemia.
- Administered rapidly via IV bolus.

Nursing Considerations for Hypertonic Solutions

- **Document baseline data.** Before infusion, assess the patient's vital signs, edema status, lung sounds, and heart sounds, glucose levels. Continue monitoring during and after the infusion.
- **Watch for signs of hypervolemia.** Since hypertonic solutions move fluid from the ICF to the ECF, they increase the extracellular fluid volume and increase the risk for hypervolemia. Look for signs of swelling in arms, legs, face, shortness of breath, high blood pressure, and discomfort in the body (e.g., headache, cramping).
- **Monitor and observe the patient during administration.** Hypertonic solutions should be administered only in high acuity areas with constant nursing surveillance for potential complications.
- **Verify order.** Prescriptions for hypertonic solutions should state the specific hypertonic fluid to be infused, the total volume to be infused, the infusion rate and the length of time to continue the infusion.
- **Assess health history.** Patients with kidney or heart disease and those who are dehydrated should not receive hypertonic IV fluids. These solutions can affect renal filtration mechanisms and can easily cause hypervolemia to patients with renal or heart problems.
- **Prevent fluid overload.** Ensure that administration of hypertonic fluids does not precipitate fluid volume excess or overload.
- **Do not administer peripherally.** Hypertonic solutions can cause irritation and damage to the blood vessel and should be administered through a central vascular access device inserted into a central vein.
- **Monitor blood glucose closely.** Rapid infusion of hypertonic dextrose solutions can cause hyperglycemia. Use with caution for patients with diabetes mellitus.
- **Check integrity of IV Solution.** Solution should be clear with the container and seals intact. IV solutions are covered in overwrap, do not remove until ready for use. Check for minute leaks by squeezing the container firmly, if leaks are found, discard solution as sterility may be compromised.



IV Solutions Cheat Sheet

[LEARN MORE AT NURSESLABS.COM/IV-FLUIDS/](https://www.nurseslabs.com/iv-fluids/)

Hypotonic Solutions

0.45% Sodium Chloride Solution (0.45% NaCl)

Other names

- Half-strength normal saline
- 1/2 NS

Osmolality

- 154 mOsm/L

Contains

- Water
- Sodium (77 mEq/L)
- Chloride (77 mEq/L)

Uses

- Used for replacing water in patients who have hypovolemia with hypernatremia.

Caution

- Excessive use may lead to hyponatremia due to the dilution of sodium.

0.33% Sodium Chloride Solution (0.33% NaCl)

Other names

- 5% Dextrose in 0.33 Sodium Chloride
- One-third strength normal saline

Osmolality

- 365 mOsm/L (hypotonic once dextrose is metabolized)

Contains

- Water
- Sodium (56 mEq/L)
- Chloride (56 mEq/L)
- Glucose (50g/L)
- 170 kcal/L

Uses

- Used to allow kidneys to retain needed amounts of water. Free water helps kidneys eliminate solutes.
- Typically administered with dextrose to increase tonicity.

Caution

- Used in caution for patients with heart failure and renal insufficiency.

0.225% Sodium Chloride Solution (0.225% NaCl)

Other names

- 5% Dextrose in 0.225 Sodium Chloride

Osmolality

- 77 mOsm/L

Contains

- Water
- Sodium (38 mEq/L)
- Chloride (38 mEq/L)
- Glucose (50g/L)

Uses

- Used as maintenance fluid for pediatric patients as it is the most hypotonic fluid available.
- Typically administered with dextrose to increase tonicity.

2.5% Dextrose in Water (D2.5W)

Osmolality

- 126 mOsm/L

Contains

- Water
- Glucose (25g/L)

Uses

- Used to treat dehydration and decrease the levels of sodium and potassium.

Caution

- Should NOT be administered with blood products as it can cause hemolysis of red blood cells.

Nursing Considerations for Hypotonic Solutions

- **Document baseline data.** Before infusion, assess the patient's vital signs, edema status, lung sounds, and heart sounds. Continue monitoring during and after the infusion.
- **Do not administer in contraindicated conditions.** Hypotonic solutions may exacerbate existing hypovolemia and hypotension causing cardiovascular collapse. Avoid use in patients with liver disease, trauma, or burns.
- **Risk for increased intracranial pressure (IICP).** Should not be given to patients with risk for IICP as the fluid shift may cause cerebral edema (remember: hypotonic solutions make cells swell).
- **Monitor for manifestations of fluid volume deficit.** Signs and symptoms include confusion in older adults. Instruct patients to inform the nurse if they feel dizzy.
- **Warning on excessive infusion.** Excessive infusion of hypotonic IV fluids can lead to intravascular fluid depletion, decreased blood pressure, cellular edema, and cell damage.
- **Do not administer along with blood products.** Most hypotonic solutions can cause hemolysis of red blood cells especially during rapid infusion of the solution.
- **Check integrity of IV Solution.** Solution should be clear with the container and seals intact. IV solutions are covered in overwrap, do not remove until ready for use. Check for minute leaks by squeezing the container firmly, if leaks are found, discard solution as sterility may be compromised.

**Appendix 2. Document Request Form**

| Document Request Form | | | |
|--|---|---|---------------------|
| Section A: Completed by Document Requester | | | |
| 1. Requester Details | | | |
| Name | Mark Nino Galang/ Wafa Mohammed Al Wadhahi | Date of Request | May 2022 |
| Institute | Al Masarra Hospital | Mobile | 93689028 / 91259752 |
| Department | Nursing Affairs Department | Email | - |
| The Purpose of Request | | | |
| <input checked="" type="checkbox"/> Develop New Document | <input type="checkbox"/> Modification of Document | <input type="checkbox"/> Cancelling of Document | |
| 1. Document Information | | | |
| Document Title | Crash Cart Study Guide | | |
| Document Code | AMRH/ADMIN/SG/001/Vers.01 | | |
| Section B: Completed by Document Controller | | | |
| <input checked="" type="checkbox"/> Approved | <input type="checkbox"/> Cancelled | <input type="checkbox"/> Forward To:..... | |
| Comment and Recommendation: | | | |
| Name | Ruvilee Ramel-Bueno | Date | May 2022 |
| Signature | <i>R. Bueno</i> | Stamp | |





Appendix 3. Document Validation Checklist

| Document Validation Checklist | | | | | |
|--|---|--------------------|--|-----|----------|
| Document Title: Crash Cart Study Guide | | | Document Code: AMRH/ADMIN/SG/001/Vers.01 | | |
| No | Criteria | Meets the Criteria | | | Comments |
| | | Yes | No | N/A | |
| 1. | Approved format used | | | | |
| 1.1 | Clear title – Clear Applicability | ✓ | | | |
| 1.2 | Index number stated | ✓ | | | |
| 1.3 | Header/ Footer complete | ✓ | | | |
| 1.4 | Accurate page numbering | ✓ | | | |
| 1.5 | Involved departments contributed | | | ✓ | |
| 1.6 | Involved personnel signature /approval | ✓ | | | |
| 1.7 | Clear Stamp | ✓ | | | |
| 2. | Document Content | | | | |
| 2.1 | Clear purpose and scope | ✓ | | | |
| 2.2 | Clear definitions | ✓ | | | |
| 2.3 | Clear policy statements (if any) | | | ✓ | |
| 3. | Well defined procedures and steps | | | | |
| 3.1 | Procedures in orderly manner | | | ✓ | |
| 3.2 | Procedure define personnel to carry out step | | | ✓ | |
| 3.3 | Procedures define the use of relevant forms | | | ✓ | |
| 3.4 | Procedures to define flowchart | | | ✓ | |
| 3.5 | Responsibilities are clearly defined | | | ✓ | |
| 3.6 | Necessary forms and equipment are listed | ✓ | | | |
| 3.7 | Forms are numbered | ✓ | | | |
| 3.8 | References are clearly stated | ✓ | | | |
| 4. | General Criteria | | | | |
| 4.1 | Policy is adherent to MOH rules and regulations | ✓ | | | |
| 4.2 | Policy within hospital/department scope | ✓ | | | |
| 4.3 | Relevant policies are reviewed | ✓ | | | |
| 4.4 | Items numbering is well outlined | ✓ | | | |
| 4.5 | Used of approved font type and size | ✓ | | | |
| 4.6 | Language is clear, understood and well structured | ✓ | | | |
| Recommendation For implementation More revision To be cancelled..... | | | | | |
| Reviewed by: <u>Kunooz Al Balushi</u> Reviewed by: <u>Ruvilee Ramel-Bueno</u> | | | | | |

