

AL-Hilla University collage

Department of Anesthesia

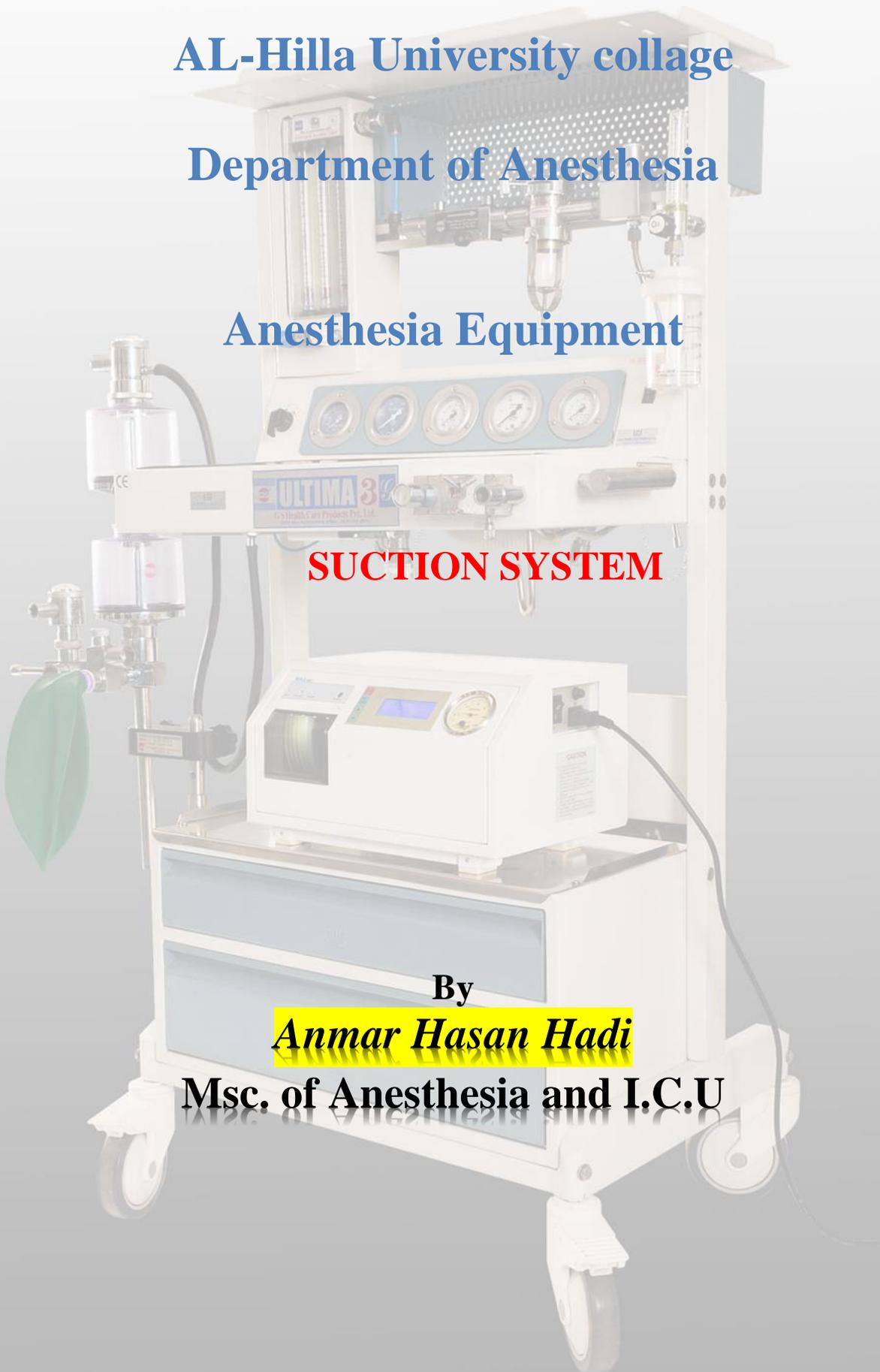
Anesthesia Equipment

SUCTION SYSTEM

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SUCTION SYSTEM

This is a device that used during anesthesia or intensive care unit to clear the airway from blood , saliva , vomit or other secretions so that a patient may breathe (prevent pulmonary aspiration) .

During surgery , suction is used to provide a clear operating field for the surgeon (**remove blood from the area**) .

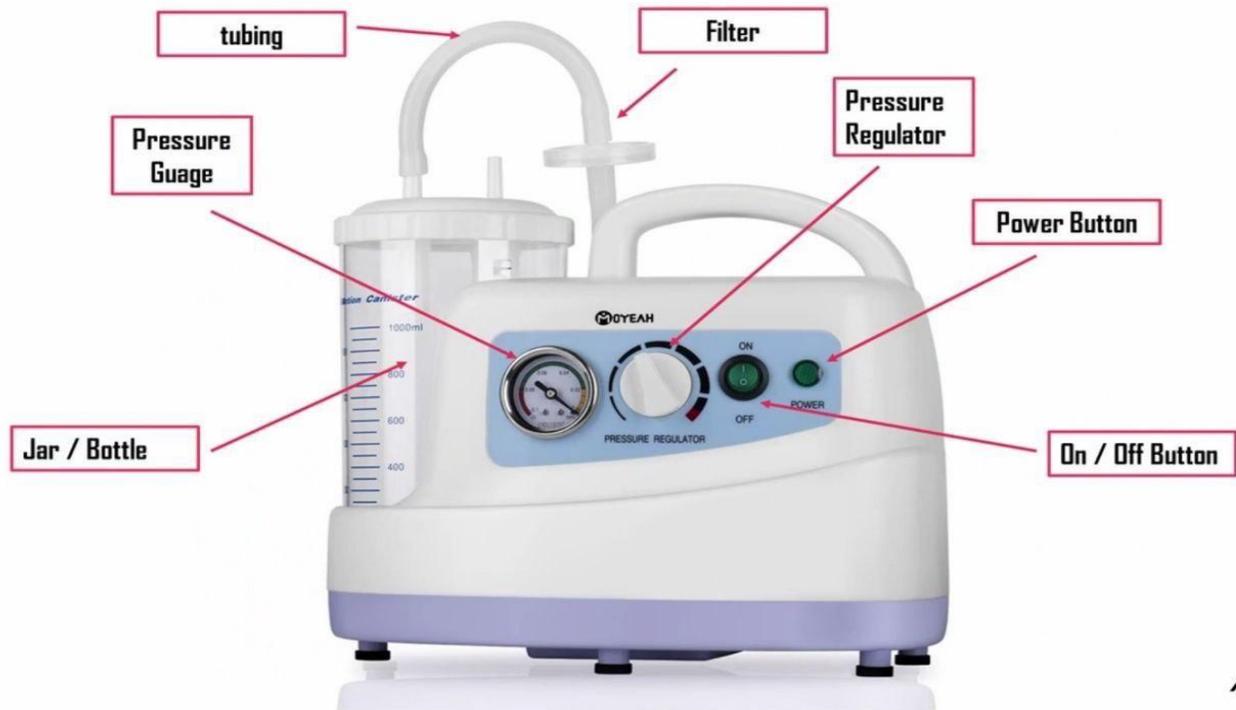
Suctioning occur through **nose / mouth** or **endotracheal tube** or **tracheostomy**.

Types of suction machine

1. Standard suction machine . (movable)
2. Wall mounted suction machine . (fixed)



Components



The negative pressure creates **a vacuum effect** that pulls any blood, mucus, or similar secretions out of the throat. The secretions are then automatically dispensed **into a collection jar**.

Types of suction catheter

1. open suction catheter :



Finger Tip



Thumb Control



suction catheter with
yankauer handle .



2. **closed suction catheter** : used in patient with endotracheal tube or tracheostomy . (the patient can be suctioned without being disconnected from the ventilator)



NOTES

1- suction machine should be set with **appropriate negative pressure** for :

Adult 100 - 120 mmhg

Children 80 – 100 mmhg

Infant 50 - 80 mmhg

2- The catheter size used for suction should be **~50% of the internal diameter of the endotracheal tube** .

$$\text{size of suction catheter} = \text{ETT size} - 1 \times 2$$

Indications for suctioning

- 1- Excessive secretions that may be visible or audible
- 2- Decreased oxygen saturation or abnormal RR
- 3- Noisy breathing
- 4- Patient is inability to generate an effective cough
- 5- Suspected aspiration of gastric or upper airway secretions

Procedure

- 1- **Preoxygenation** (**increase FIO₂ to 100% for > 30 seconds**)
prior to suctioning to minimize hypoxia during and after the suctioning event .

- 2- Insert the catheter **with appropriate size** through the mouth / nose , tracheostomy tube or ETT.
- 3- Once the catheter has been inserted to the **appropriate depth** , **apply intermittent suction** and slowly withdraw the catheter .
- 4- If suctioning more than once , allow the patient time to recover between suctioning attempts (**each attempt should be < 15 seconds**) . **Applying suction for longer periods of time can cause injury, hypoxia.**
- 5- During the procedure , **monitor oxygen levels and heart rate** to make sure the patient is tolerating the procedure well.