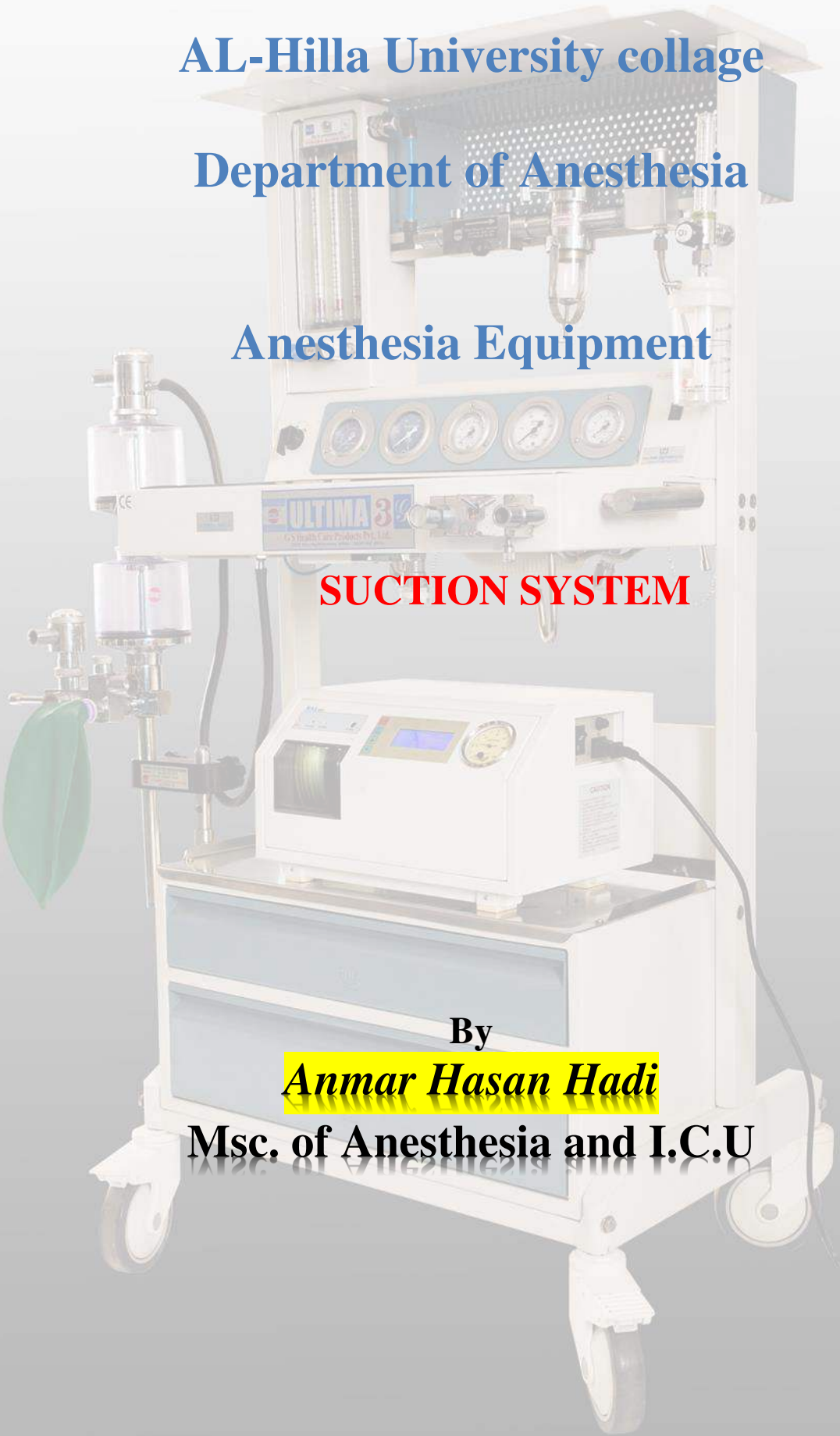
AL-Hilla University collage

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.

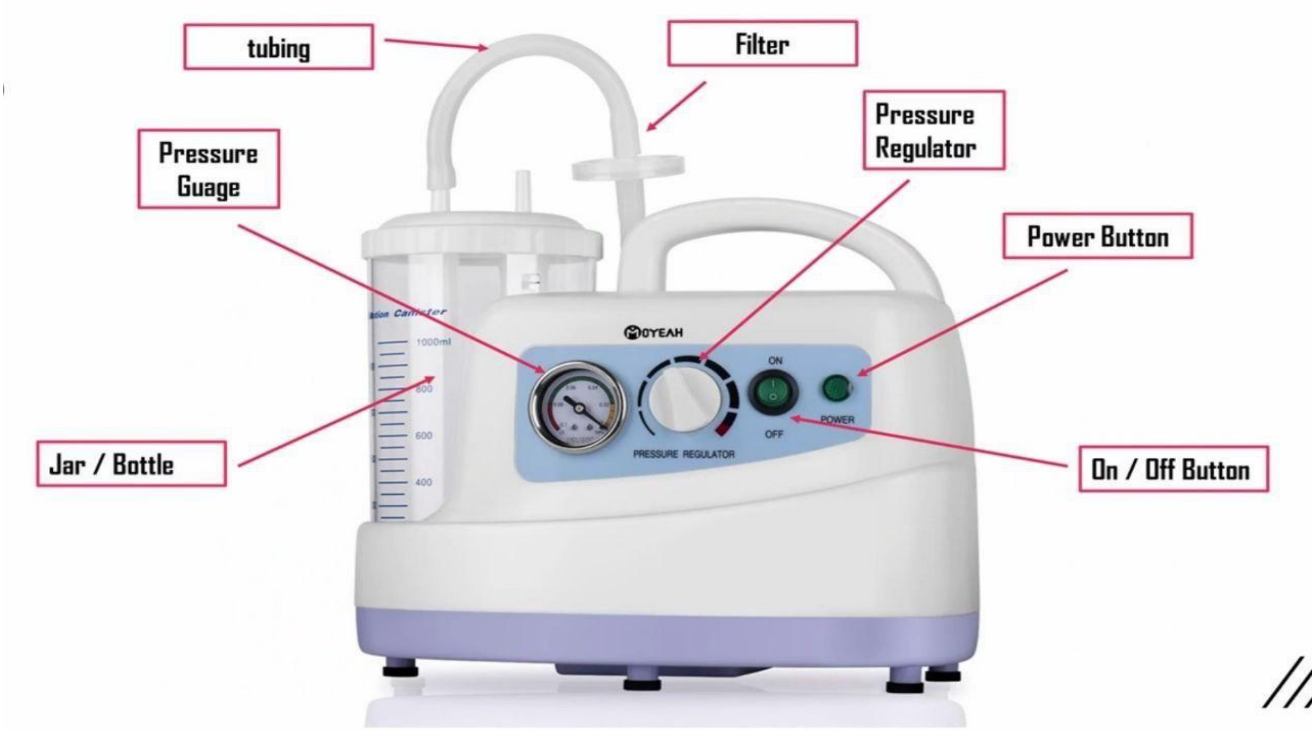
Types of suction machine

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 :





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.