

Al Mustaqbal University

College of Health and Medical Techniques

Department of Anesthesia



## Practical Anesthetic Equipment

### Stage Three

#### Course 1 Lecture 4

#### Suction System

#### By Lectures

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## Suction system

This is a device that is used during anesthesia or intensive care unit to clear the airway from **blood, saliva, vomiting, 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 **(to remove blood from the area)**.

**Note:** Suctioning occurs through the **nose, mouth, endotracheal tube, or tracheostomy**.

### Types of suction machine

1. Standard suction machine (Movable).
2. Wall-mounted suction machine (Fixed).



## Components



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

## Indications for suctioning

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

**Note 1:** Suction machine should be set with appropriate negative pressure for:

- ❖ Adult 100 - 120 mmHg.
- ❖ Children 80 – 100 mmHg.
- ❖ Infant 50 - 80 mmHg.

**Note 2:** The catheter size used for suction should be 50% of the internal diameter of the endotracheal tube (**size of suction catheter = ETT size – 1 × 2**).

### **Procedure of suctioning**

1. Preoxygenation (increase FIO<sub>2</sub> to 100% for > 30 seconds) prior to suctioning to minimize hypoxia during and after the suctioning event.
2. Insert the catheter with the appropriate size through the nose, mouth, endotracheal tube, or tracheostomy.
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 10 seconds). Applying suction for longer periods can cause injury and hypoxia.
5. During the procedure, monitor oxygen levels and heart rate to make sure the patient is tolerating the procedure well.

## Types of suction catheter

1. Open suction catheter.



2. Closed suction catheter: used in-patient with endotracheal tube or tracheostomy.

(The patient can be suctioned without being disconnected from the ventilator).



THANK  
You