Dr. mokhalad mohamed

M.B.Ch.B & C.A.B.A

Alaa Hussein Al-Gubouri

Msc.anasthesia &I.C.

SUCTION SYSTEM

أسس التخدير العملي

المرحلة الثانية

محاضرة ٥

- 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, endotracheal tube or tracheostomy.

- **Types of suction machine**

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

Component of suction device

1.Pump.

2.Filter.

3.Floating valve (cut off valve).

4.control box(pressure gauge,

pressure regulator,

power button

on/off button).

5.reservoir (Jar).

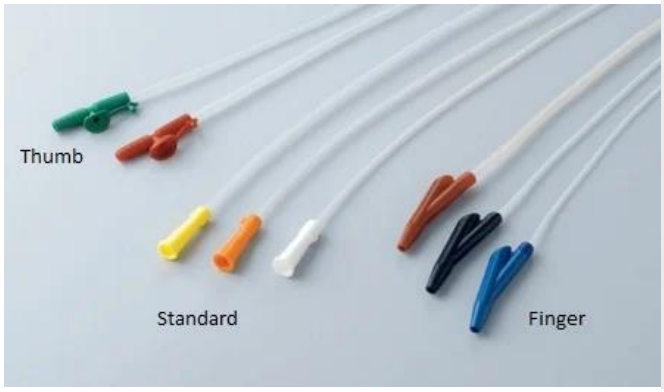
6.transfer tubing.

7.suction catheter.

8.Suction trolley.

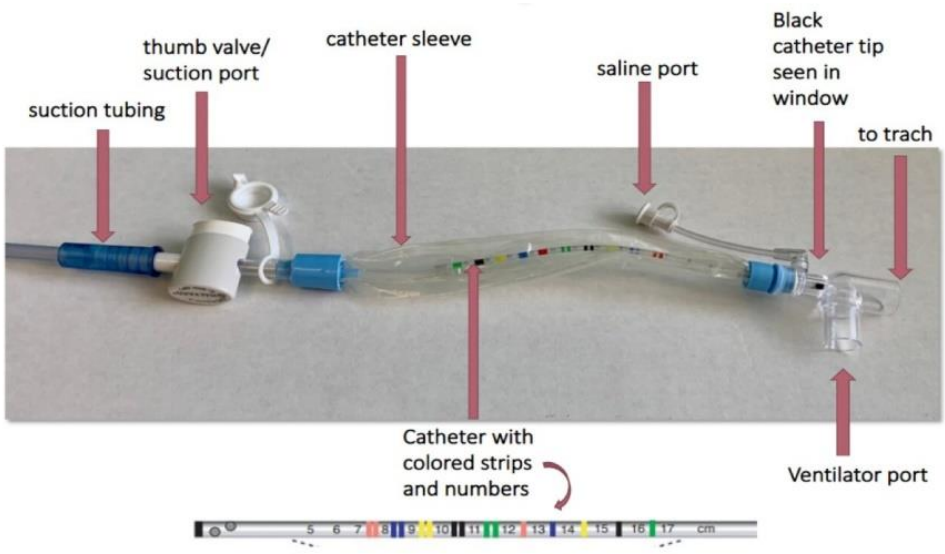
Types of suction catheter

1.open suction catheter



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)



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.

NOTES

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

Adult	100 - 120 mmhg
Children	80 – 100mmhg
Infant	50 - 80mmhg

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

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.

Complication

1. Infection > avoided by sterile technique

2.Trauma > minimized by the correct choice of catheter and

negative pressure combined with good technique

3. Hypoxia > by the accurate use of the applied negative pressure, and accurate timing - not too powerful or too long

4. Cardiac arrhythmias

5. Atelectasis > proper suction force and time.

6. Bleeding > proper technique