

Anesthesiology Lectures

- 1- Introduction to general anesthesia**
- 2- Preoperative evaluation with regards to anesthesia**
- 3- complications of anesthesia**

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Introduction to general anesthesia

Objectives

- **Meaning and components of general anesthesia**
- **Choice of anesthetic technique**
- **Routes of administrations**
- **Steps of anesthesia**
- **Factors affecting choice of anesthesia**
- **An idea about anesthesia equipments**
- **Concerns in special situations**

Anaesthesia consist of :

ANALGESIA

HYPNOSIS

RELAXATION

LOSS OF PAIN SENSATION

SLEEP

Factors affecting choice

The patient status

The anesthesiologist preference

The surgeon

The procedure

Routs of administrations

■ INHALATIONAL:

**through face mask or othe air way equipments
like via endotracheal tube or laryngeal mask
airway**

■ INTRAVENOUS: an intravenous line with appropriate canula.

Steps of anesthesia

- 1- preoperative assessment**
- 2- premedication**
- 3- induction of anesthesia**
- 4- air way establishment and control**
- 5- maintenance**
- 6- monitoring**
- 7- postoperative care**

Intravenous cannulation

Proper sites for insertion:

**In the wrist, in the capital fossa, leg veins, scalp, jugular,
venous cut down**

Finding a vein

How do you make a vein obvious ?

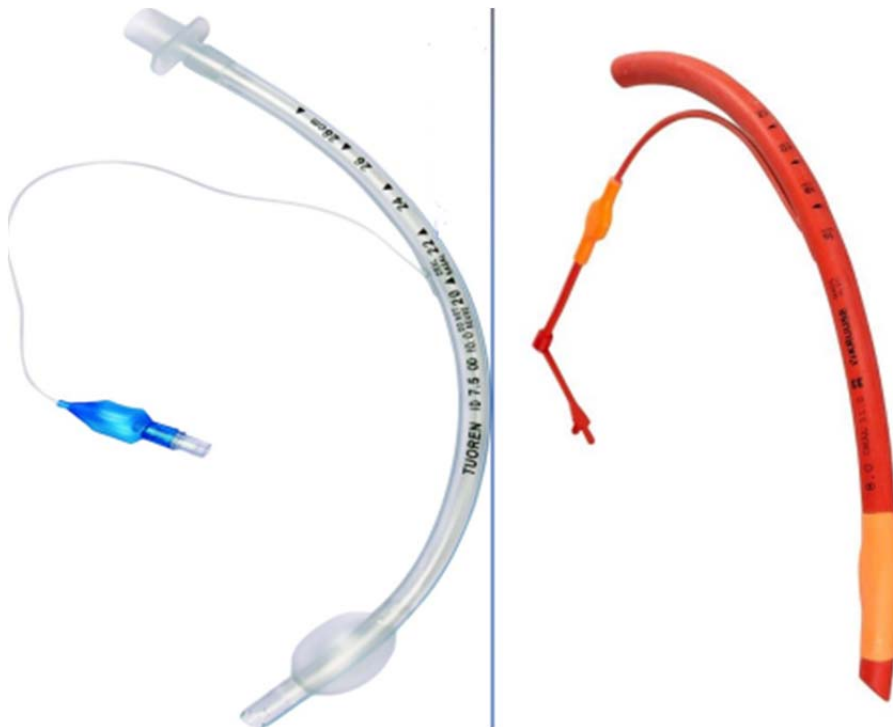
- 1- By gravity**
- 2- Tapping**
- 3- Rubber band**
- 4- Application of heat**

Endotracheal tube

1- Simply we have either cuffed or non cuffed



2- PORTEX - RED RUBBER



3-armored or plane



Indications for endotracheal intubation

1- LONG TIME OPERATIONS

2- OBESITY

3- USE OF LONG ACTING MUSCLE RELAXANTS

**4- OPERATIONS IN SPECIAL SITES LIKE ENT,
FASCIOMAXILLARY AND NEUROSURGERY**

5- IN EMERGENCY

Selection of endotracheal tube size

SIZE= AGE + 4 mm / 4 internal diameter

■ LENGTH

Preoperative evaluation with regards to anesthesia objectives

- *Preoperative concerns
- *Important points in the history
- *Relevant points in Examination of patients
- *Bedside tests
- *Laboratory Investigations
- *Clinical investigations

Preoperative concerns

- **Extreme of ages**
- **Chronically Debilitated Patients**
- **Malnourishment**
- **History of Heavy Smoking**
 - Affects oxygen hemoglobin
 - Affects pulmonary function
 - Predisposes to cardiac diseases
- **History of Alcoholism**

- **Co-existing disease such as hypertension, diabetes mellitus, ischemic heart disease**

Important points in the history

PAST ILLNESS:

Previous surgery:

Type of anesthesia,

Any anesthesia related complication

Drug history

Why the patient taking treatment?

Type of Medications

Allergy to specific drug

Family history:

medical diseases, bleeding tendency, previous anesthesia and related mishaps or insults.

Revise Systemic functions

Respiratory system: particularly features of asthma, chronic obstructive air way diseases.

Cardio vascular:

Ischemic heart diseases, hypertension, heart failure

Renal system

Liver function

EXAMINATION

GENERAL:

Built indicate underweight, overweight or obesity

Pallor reflects anaemia

Oedema: related to cardiac, renal, or hepatic diseases

Jaundice= liver

Cyanosis= respiratory or cardiac

Hydration state= nutrition

AIRWAY EXAM: directed towards air way control and safety.

Look for the teeth, jaws and neck

(INTUBATION HAZARDS)

CARDIOVASCULAR SYSTEM: PULSE, B.P, NECK VEINS

RESPIRATORY SYSTEM: ASTHMA SIGNS, BRONCHITIS

Malampati



Class I: soft palat ,uvula, and tonsillar pillors

Class II: soft palat ,uvula

Class III: soft palat

Class IV: non

SIMPLE RESPIRATORY FUNCTION TESTS:

1- BREATH HOLDING: NORMAL > 25 SEC.

2- Match test : Can blow up a flame from 15 cm



complications of anesthesia

should be considered seriously to prevent morbidity and mortality.

Complications range from minor to catastrophic.

When they occur, require appropriate evaluation, proper management, and detailed documentation to minimize the negative outcomes.

classification

At time of induction

Intra operatively

At recovery

Post operatively

At induction

- I. Drugs : Allergic manifestation
- II. Laryngospasm
- III. Regurgitation
- IV. Upper airway obstruction : By the lips especially edentulous

By the tongue

- V. complications from laryngoscopy:
 - 1- Trauma: dental trauma, lip injury, pharyngeal tear
 - 2- autonomic response
- VI. complications of Endotracheal intubation

1-Malposition

2-malfunction kink , cuff herniation

3- Pressure injury on trachea. Why ?

4-Edema of glottis or trachea.

5-Post intubation granuloma of vocal cords.

Intraoperative

A- respiratory complications

- I. Respiratory obstruction

Signs of respiratory obstruction in spontaneously breathing patient

1. Inadequate tidal volume.
2. Excessive abdominal movement.
3. Use of accessory muscles of respiration.
4. Noisy breathing (unless obstruction is absolute and complete).
5. Cyanosis.

- II. Hypoxemia
- III. Hypercapnia and hypocapnia
- IV. Hypoventilation

B) Hemodynamic Complications

- I. Hypotension
- II. Hypertension
- III. Tachycardia
- IV. Bradycardia
- V. Arrhythmia