

General and Pre Anesthesia

General Anesthesia

→ Produce reversible loss of all sensation and consciousness.

Cardinal features [DEPTH OF BIOLOGY]

- ① Loss of all sensation especially pain.
- ② Sleep and partial or total loss of memory.
- ③ Immobility or muscle relaxation.

Mechanism

→ The MOA is Not precisely known.

→ Inhalation anesthesia are now selective in their nature.

• At molecular level,

Anesthesia interacts with

[DEPTH OF BIOLOGY]



Hydrophobic region of neuronal memb. protein.

• Inhaled Anesthesia,

like barbiturates, Benzodiazepines facilitates GABA chloride channel.

Inhalation Anesthesia → Enflurane and Isoflurane
↓ use the duration of opening of Nicotine receptor.

[DEPTH OF BIOLOGY]

By influencing Neuronal Memb. protein,

↓
General Anesthesia

↓
Disturb. → Neuronal firing
→ sensory processing] in the Thalamus

[DEPTH OF BIOLOGY]

↓
causing loss of sensation / consciousness and
Analgesic effect.

* Neuronal output → also reduce Motor activity

MAC → (Minimal Alveolar Conc.)

lowest conc. of Alveoli need to produce Immobility
in response to the painful stimulus

Stages of Anesthesia

General Anesthesia → cause an Irregularly
descending depression of the CNS.

① Higher functional loss [DEPTH OF BIOLOGY]

② Progressively lower area of Brain Involved

* But in spinal cord lower segment gets affected
prior to the higher one.

Stages

1. Stage of Analgesia :-

→ starts from Anesthesia inhalation and lasts upto
the loss of consciousness.

→ Pain progressively abolished.

→ Patient remain conscious [DEPTH OF BIOLOGY]

- Patient still → feel, hear and see
- Reflexes and respiration remains normal.

2. Stage of Excitement

- from loss of consciousness to beginning of regular respiration [DEPTH OF BIOLOGY]
- excitement is seen in patient.
- Heart rate and BP may rise and pupil dilation due to sympathetic stimulation.

3. → Divided into 4 parts (Loss of excitement)

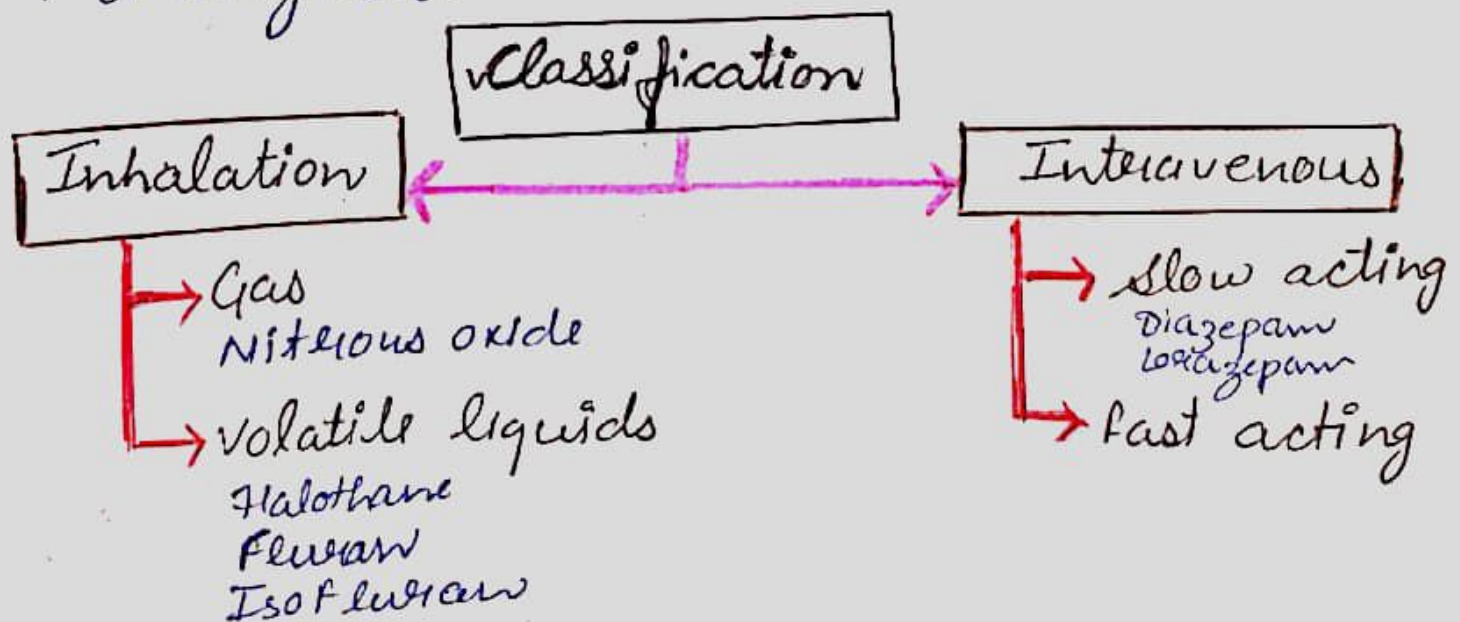
[DEPTH OF BIOLOGY]

- Plane 1. → Roving eyeballs
- Plane 2. → Loss of corneal and laryngeal reflex.
- Plane 3. → Pupil start dilating.
- Plane 4. → Intercostal Paralysis

4. Medullary Paralysis

- Pupil widely dilate
- BP very low.

[DEPTH OF BIOLOGY]



Pre Anesthetic Anesthesia

- Use of drug before anesthesia to make it more safe and pleasant.
- To provide comfort.
- To reduce adverse effect of anesthesia.

Drugs → Pre anest. → Antianxiety drugs
 ↓
 Diazepam ← Benzodiazepams.
 Lorazepam ←

- ② Small sedative and high hypnotic → CNS depressor.
- ③ Opioid Analgesic → Morphine used.
- ④ Anticholinergic → Atropine
 - stops Salivary sec.
 - stops Bronchial sec.
 - Bradycardia
- ⑤ Antiemetics