

OXYGEN THERAPY

Oxygen therapy

00:00:22

- Oxygen therapy is giving oxygen at higher than room oxygen concentration
- Room air oxygen concentration - 21% (or) FiO_2 - 0.21

Devices of oxygen therapy

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- Low flow variable FiO_2
 - Maximum flow – 15 litres/min
 - FiO_2 varies according to patient's breathing pattern
 - Devices:-
 1. Nasal cannula
 2. Simple face mask
 3. Face mask with reservoir bag
 - Non-Rebreathing mask (Most common)
 - Rebreathing mask
- High flow fixed FiO_2
 - Maximum flow – 60 litres/min
 - FiO_2 is fixed in device
 - Devices:-
 1. High flow nasal cannula
 2. Manual Resuscitator
 3. Nebulizer
 4. Venturi mask

Low flow variable FiO_2

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Nasal cannula



- O_2 flow – 1-6litres/min
- FiO_2 varies from 0.24 to 0.45. It can give 24-45% of O_2 to the patient

Nasal cannula O_2 flow	FiO_2
1litre/min	$21\% + 4\% = 25\%$
2litre/min	$21\% + 8\% = 29\%$
6litre/min	$21\% + 24\% = 45\%$

Simple face mask /Hudson mask



- O_2 flow – 6-10 litre/min
- FiO_2 – 0.33-0.60

Mask with reservoir bag

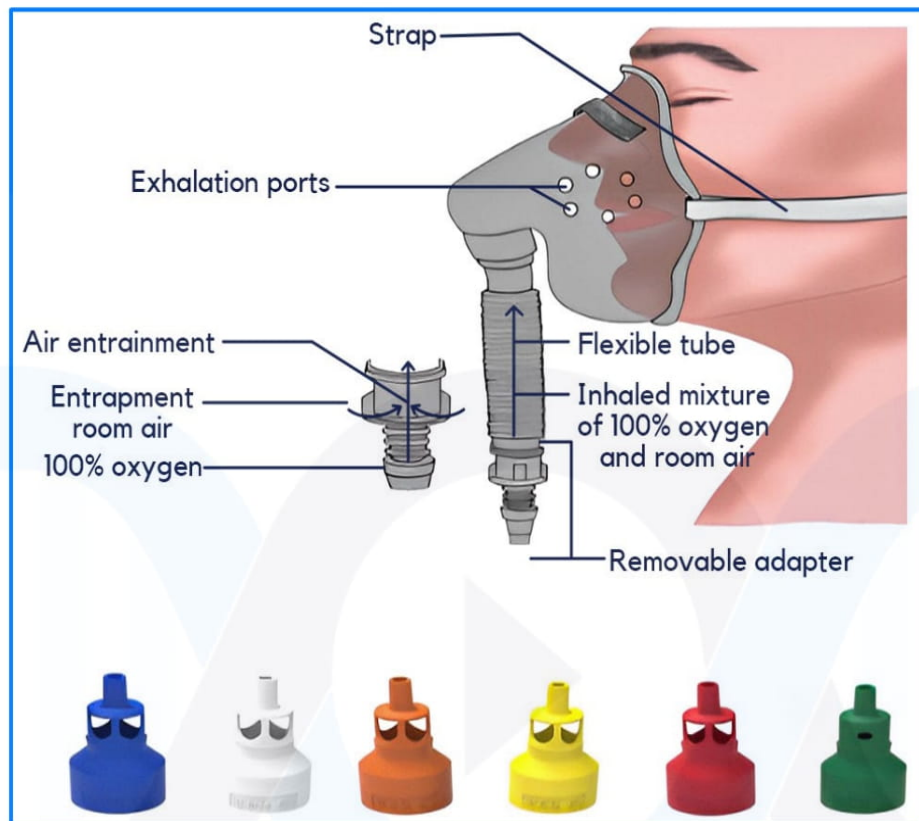
- Non-Rebreathing Mask
 - It has one way valve, which allows the gas stored in the reservoir bag into the mask. But doesn't allow expired gas to enter into the Reservoir bag
 - If the expired gas goes into the reservoir bag, then gas gets diluted. This causes Rebreathing
 - O_2 flow – 10-15litre/min
 - FiO_2 - 0.7 – 0.9



High flow fixed FiO₂ devices

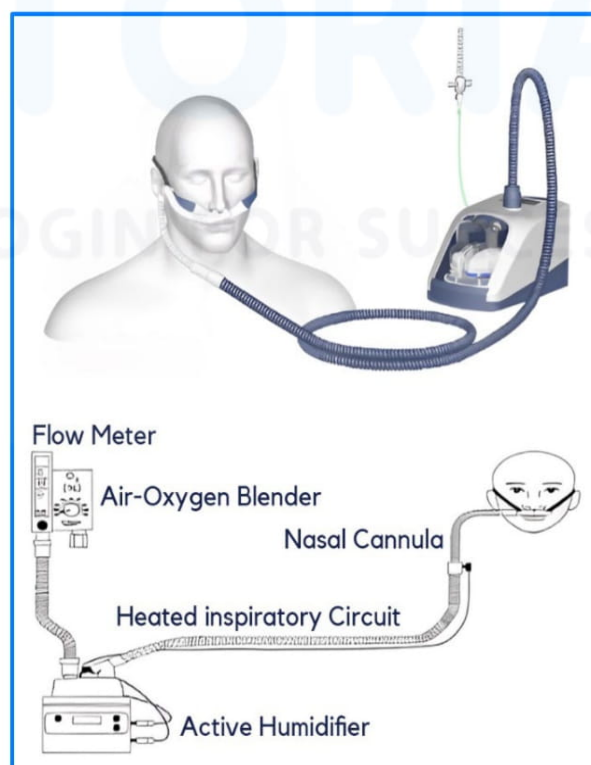
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Venturi mask (or) Venti mask



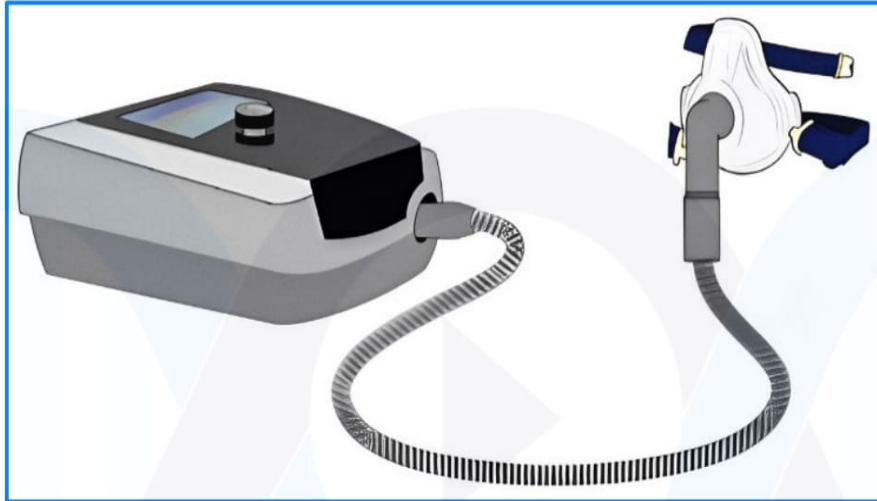
- O₂ flow – 15litre/min
- FiO₂ – 0.6

High flow nasal cannula



- High O_2 flow - 60-70litre/min
- Fixed FiO_2 - 21% - 100%
- Humidified gas
- Decreases dead space
- Creates positive airway pressure

Non invasive ventilation



- BiPAP & CPAP are more common modes used in Non invasive ventilation
- Used in patients with COPD & Pulmonary edema
- Contraindication: -
 1. Patient in COMA
 2. Patient not able to clear secretions
- In patients with COMA, this device can cause aspiration

