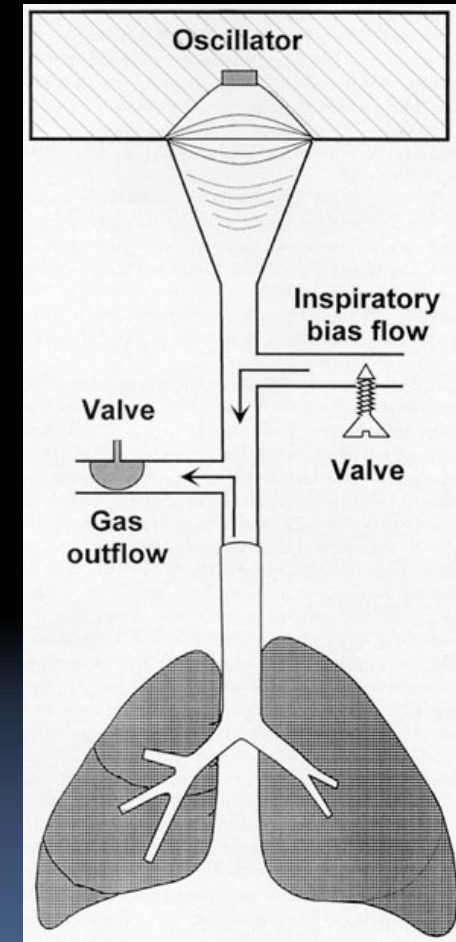


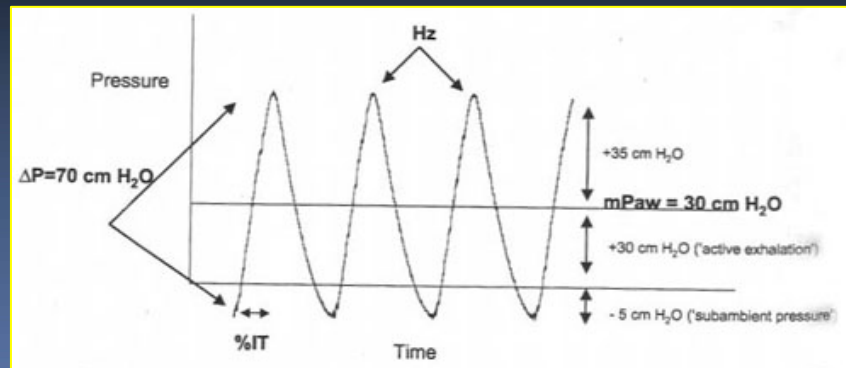
# Components of HFOV

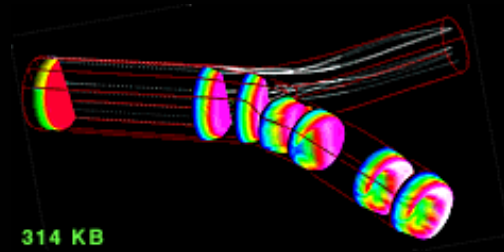
- Driving system
  - Oscillating pump or diaphragm
- Bias flow system
  - Deliver fresh gas
- Transmission link



# Physiology of HFOV

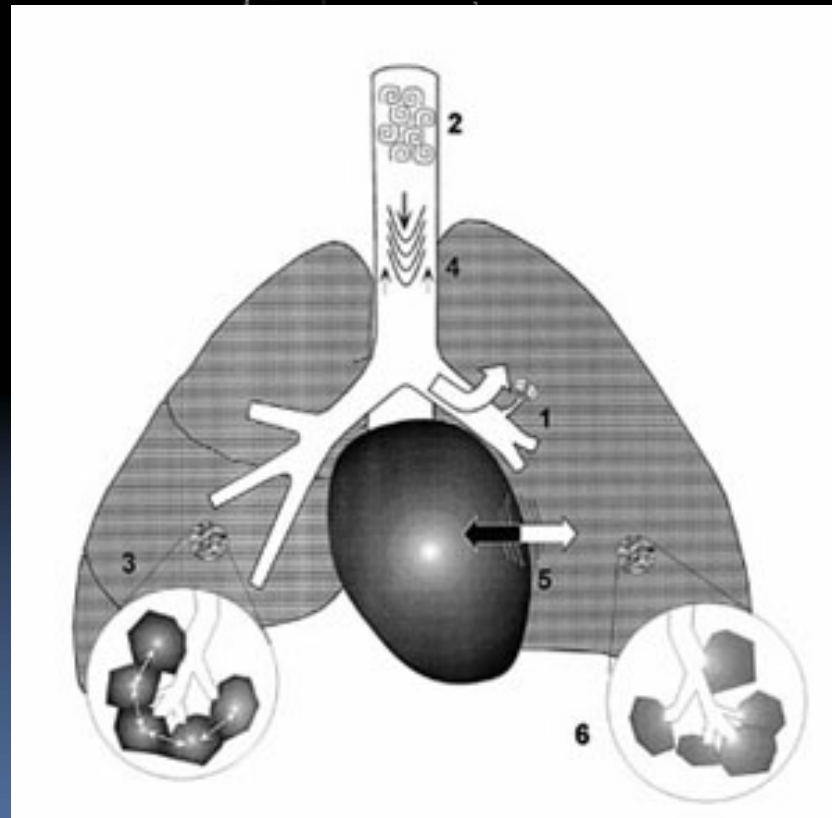
- Sinusoidal wave form
- High mean airway pressure ( $P_{aw}$ )
- Active expiratory phase
  - Equal positive and negative pressure generation
    - Symmetric flow pattern
    - Blurs dead space and alveolar ventilation





# HFOV

## Gas transport mechanisms



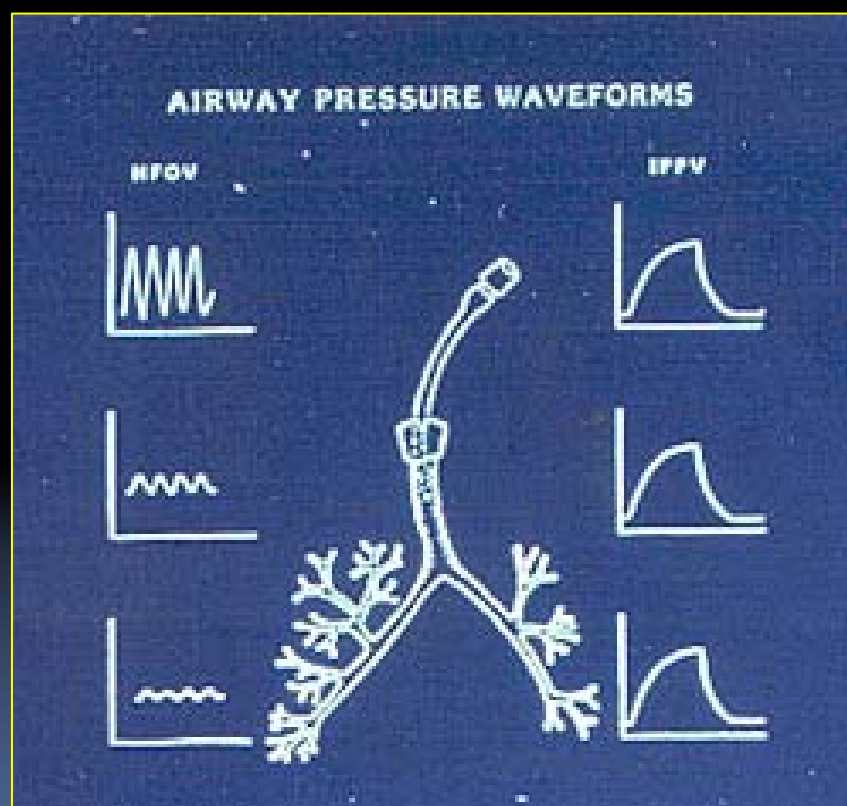
# ARDS

## HFOV

- “HFOV - Caring for the Baby in Adults”
  - Baby Lung Sitting on Top of a Consolidated Lung
    - Tidal Volumes of 6-10 ml/kg based on weight
    - Tidal Volumes of 20-50 ml/kg based on open lung units
  - Histology is similar to infant lung injury



# Proximal and Alveolar Pressures HFOV vs CMV



Gerstmann D.