

# INHALERS

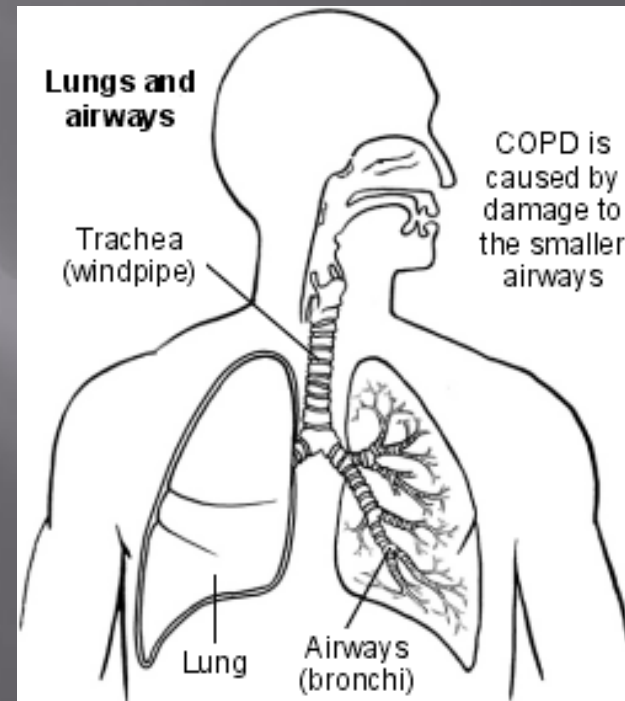
# History & Uses

- ▣ 1930's adrenaline
- ▣ 1956 pMDI introduced
- ▣ 1969 salbutamol Mdi introduced
- ▣ Why inhaled?
  - Site of action = lower doses
  - Reverse bronchoconstriction
  - Anti-inflammatory
- ▣ Drug delivery depends on?
  - Drug
  - Dose
  - Device
  - Technique

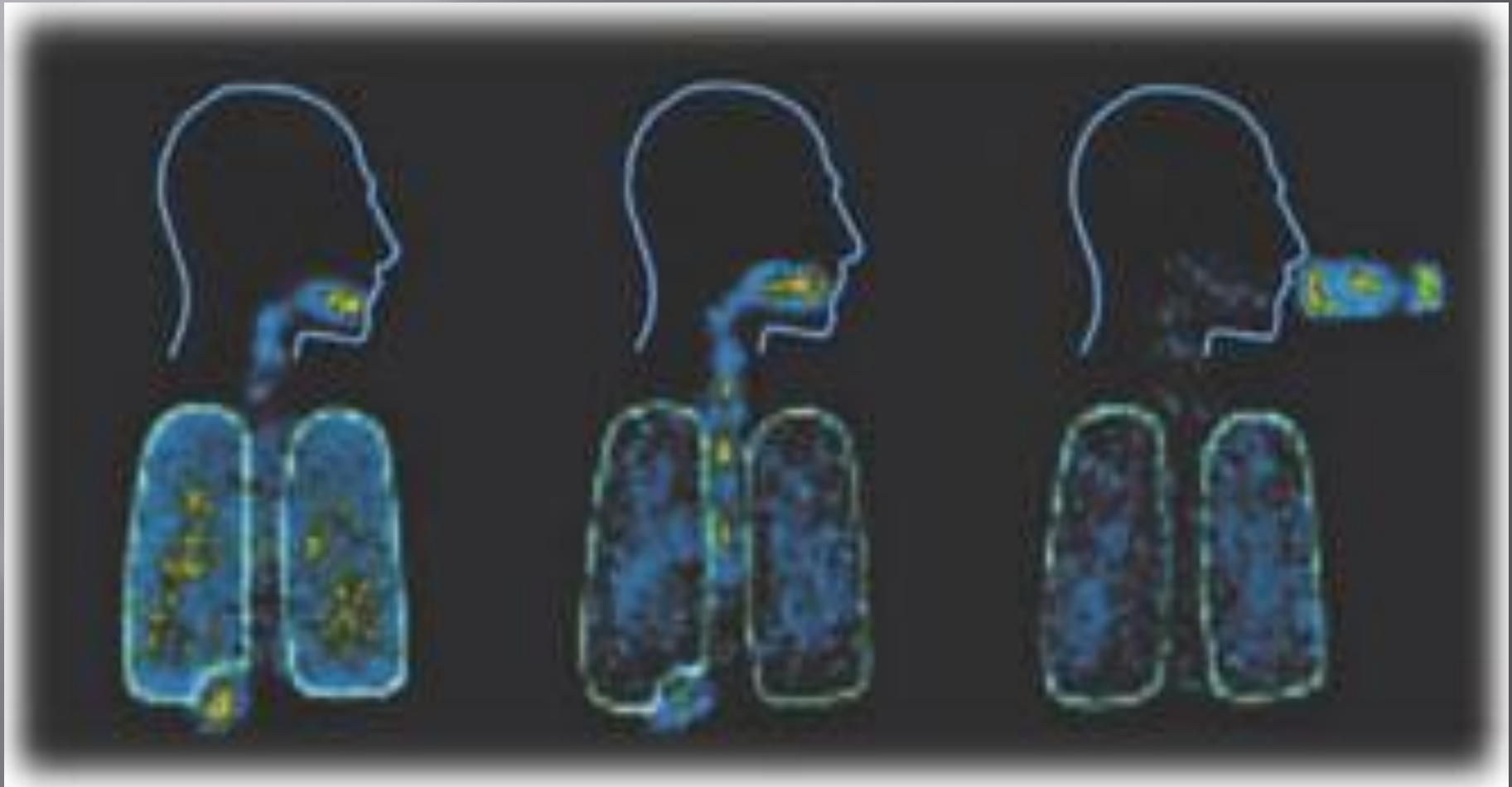
# COPD

Puffers and medication cannot cure or reverse lung damage BUT they aim to

1. Relieve symptoms
2. Improve lung function
3. Improve your daily activities and quality of life



# Does Size Matter?



# Inhaler Technique?

- ▣ Requires energy
  - MDI (propellant)
  - Dry Powder (inspiratory effort)
  - New spring loaded, soft mist
- ▣ Dependant on inhaler device types?
  - Pressurised metered dose inhalers (pMDI)
  - Breath activated pMDI
  - Dry Powder Inhalers
  - Soft mist
  - <http://www.medicines.org.uk/guides/pages/how-to-use-your-inhaler-videos>

# COPD Medicines

- ▣ Relievers – two types
- ▣ Steroids (preventers) – puffers or tablets

# Relievers

- ▣ Two types -  $\beta$ 2-agonists and Antimuscarinics
- ▣ Short acting
- ▣ Long acting

# Device Considerations?

- Knowledge of the drug required
- Practical experience of how various devices work
- Other things to consider
  - What the patients want from their inhaler device
  - Local drug formulary
  - Range of devices
  - Range therapies
  - Patient ability
  - Cost effectiveness

# Short acting relievers

- ▣  **$\beta$ 2-agonists** -  
Salbutamol  
(Ventolin),  
terbutaline  
(Bricanyl)
- ▣ **Antimuscarinics** -  
ipratropium  
(Atrovent)



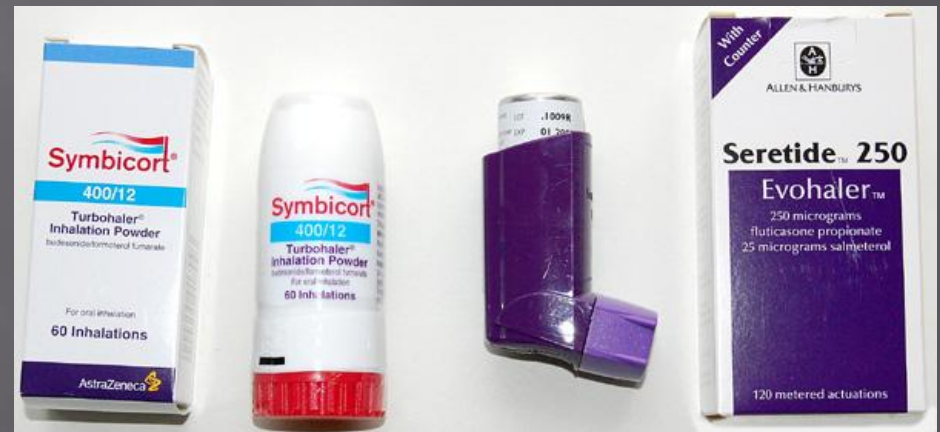
# Long acting relievers

- ▣  $\beta$ 2-agonists -  
Salmeterol (Serevent),  
formoterol (Oxis)
- ▣ Antimuscarinics -  
tiotropium (Spiriva)



# Steroids (Preventers)

- Puffers or Tablets
- Clenil Modulite, Beclazone, Flixotide, Pulmicort, QVAR
- Seretide & Symbicort
- Prednisolone tablets



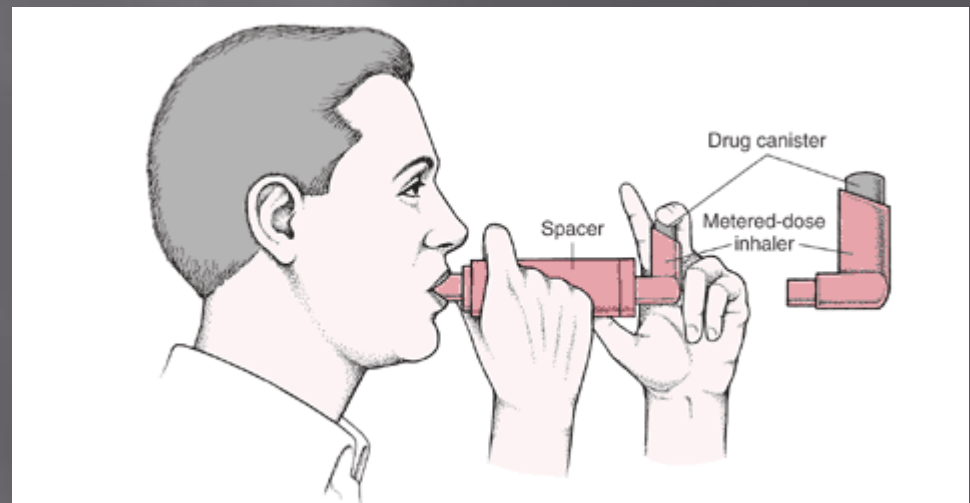
# Combination Inhalers

▣ Seretide

▣ Symbicort

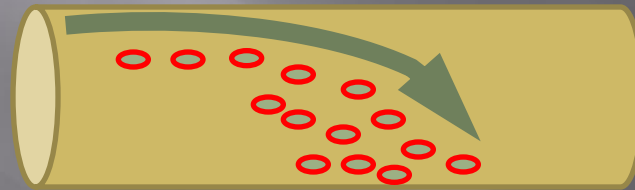


# Different inhaler devices



# Breath holding

- ▣ Allows drug to settle and improves deposition



Airway Wall

# Exacerbation (worsening) of COPD

- ▣ Steroids
- ▣ Nebulised bronchodilator
- ▣ Oxygen
- ▣ Antibiotics if infection

