Pharmacology for Respiratory Emergencies

South Cook County EMS

Module #1

Pharmacology Formulary

- Emergency medication are broken down into the following components:
  - Generic name (Trade Name[s])
  - Class
  - Mechanism of action
  - Indications
  - Contraindications
  - Adverse reactions/side effects
  - Drug interactions
  - Dosage and administration
    - Adult and pediatric
  - Duration of action
    - Onset, peak effect, duration
  - Special considerations

Pharmacology Formulary

Medications used in health care delivery are presented using a similar but less detailed format.

Not carried/administered by paramedics

State and regional EMS systems have the right to include other medications in their own formularies.

Always follow your local protocols.

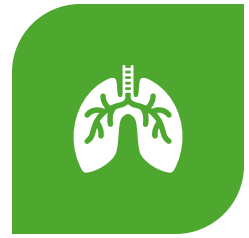
OXYGEN

COLORLESS, ODERLESS GAS

INDICATION: HYPOXIA, RESPIRATORY DISTRESS, SPO2 <95%

CONTRAINDICATIONS: COPD HYPOXIC DRIVE

DOSAGE: CONTINGENT FOR NEED



SIDE EFFECT(S): DRYING MUCUS MEMBRANES, MAY EXACERBATE HYPERVENTILATION

Albuterol (Proventil, Ventolin, Proair, Accuneb)

Generic Name

- Albuterol Sulfate

Mechanism of action

- Beta-2-adrenergic agonist
- Sympathomimetic

Contraindications

- Hypersensitivity

Adverse reactions/side effects

- Increased Heart Rate
- Increased Blood Pressure

Dosage

- 2.5 mg nebulized
- Oxygen 6-liters

Albuterol (Proventil, Ventolin, Proair, Accuneb)

Dosage and administration

- Adult
- Pediatric - over 4 years old

Action

- Relieves bronchial spasm that narrows the airway

Indications

- Asthma
- Chronic Bronchitis
- Emphysema
- Allergic Reaction
- Anaphylaxis

Epinephrine (Adrenalin, EpiPen, AsthmaNefrin)

Hormone and Medication

Mechanism of action

- Sympathomimometic
- B-adrenergic receptor

Indications

- stimulates the sympathetic nervous system

Contraindications

- None

Adverse reactions/side effects

- Tachycardia
- Hypertension
- Palpitations
- Anxiety

Drug interactions

- Nitrates
- Diuretics
- Antihypertensives

Epinephrine (Adrenalin, EpiPen, AsthmaNefrin)

Dosage and administration

- Adult
- Pediatric

Duration of action

- Onset
- Peak effect
- Duration

Special considerations

Ipratropium Bromide (Atrovent)

Bronchodilator

- dilates the airways of lungs
- clearance of secretions

Indications

- Asthma
- COPD
- Emphysema

Contraindications

- Hypersensitivity

Adverse reactions/side effects

- Dizziness
- Sinusitis

Ipratropium Bromide (Atrovent)

Dosage and administration

- Adult
- Pediatric

Duration of action

- Onset
- Peak effect
- Duration

Special considerations

Naloxone Hydrochloride (Narcan, EVZIO)

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Dosage and administration

- Adult
- Pediatric

2

Duration of action

- Onset
- Peak effect
- Duration

3

Special considerations

Naloxone Hydrochloride (Narcan, EVZIO)

Mechanism of action:	Antangonist
	Reverses opioid overdose.
Indications	Suspected overdose
Contraindications	No known
Adverse reactions/side effects:	Vomiting if administered too rapidly