

### Class: Xanthines

Prototype: Aminophylline

### Action: smooth muscle in resp. tract

Inhibits release of inflammatory chemicals

### Indication:

S/S relief and prevention of asthma

Reversible bronchospasm associated with COPD

Acute/Critical asthma attack/bronchospasm

### Contraindications:

Pregnancy category: C

Lactation

### Caution:

GI issues such as PUD & Gastritis

Heart disease

Respiratory dysfunction: chronic persistent hypoxia

Renal/Hepatic disease; Chronic ETOH

Hyperthyroid

Parenteral use increases risk & severity of Adverse Effects

### Adverse Effects:

10-20 mcg/mL: uncommon AE

Levels 20-25 mcg/mL: N/V/D, HA, irritability, insomnia

Levels >30-35 mcg/mL: hyperglycemia, cardiac effects, seizures/brain damage, & death

### Drug Interactions:

Nicotine: Increases speed of metabolism of drug; dose adjustment required if wanting to quit

### Nursing Interventions:

Smoking education: contact provider if wanting to quit

Monitor serum drug concentration level regularly

### Class: Sympathomimetics

Prototype: Epinephrine

### Action:

Dilates bronchi & increases RR rate and depth

### Indication: rescue medication

Anytime bronchoconstriction is occurring

### Contraindication/Caution:

Cardiac disease

Vascular disease

Arrhythmias

Diabetes

Hyperthyroidism

All of the diseases listed above can be worsened/exacerbated

### Adverse Effects:

CNS stimulation: anxiety/nervousness

GI upset

Rapid/Racing heartbeat

HTN

Bronchospasm

Sweating, pallor, flushing

Effects listed above are related to sympathetic stimulation

### BLACK BOX WARNING:

LABA (another category of sympathomimetics) increase risk of Asthma related death

### Nursing Interventions:

Give 30-60 min. before exercising

LABA: used as preventive treatment; not used to treat acute symptoms

### Class: Anticholinergics

Prototype: Ipratropium

### Action:

Inhibits vagus nerve stimulation resulting in bronchodilation

### Indication:

Individuals who cannot tolerate side effects of Sympathomimetics

### Contraindication:

Peanut/Soy allergy

Acute Bronchospasm

Narrow Angle Glaucoma

Bladder neck obstruction or BPH

### Caution:

Conditions worsened by anticholinergic effects

Pregnancy/lactation

### Adverse Effects:

CNS effects

Dry mouth

Palpitations

Urinary retention

Sore throat

The above effects are r/t the anticholinergic effects of the drug



### Drug Interactions:

Avoid other anticholinergic medications because they will potentiate the adverse effects

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Avoid other anticholinergic medications because they will potentiate the adverse effects

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