Bronchodilator Cheat Sheet

by rjcsntg via cheatography.com/126624/cs/24575/

B-Agonists

sympathomimetic bronchodilator

for acute attacks

reduce airway constriction and restore normal airflow

Stimulate β2-adrenergic receptors throughout the lungs

3 types

Nonselective (a, B1, B2)	**epinephrine**; **acute**
	longer acting
Nonselective B-adrenergic (B1, B2)	**isoproterenol**
Selective (B2)	**salbutamol**

Mechanism of Action

activation of B2 receptors → activates cAMP

→ bronchodilation and ↑ airflow

Indications

bronchospasms (asthma, bronchitis, other pulmonary disease)

hypotension and shock

uterine relaxation (prevent premature labour)

hyperkalemia (K^+ into the cell)

contraindications

known drug allergy

uncontrolled cardiac dysrhythmias

↑ risk of stroke (vasoconstrictive action)

Adverse Effects

Nonselective (a, B1, B2) **Epinephrine**	insomnia, restlessness, anorexia (long term), headache, **hyperglycemia**, **tremor**, cardiac stim.
Nonselective B-adrenergic (B1, B2) **isoproterenol**	cardiac stim., **tremor**, anginal pain, headache, **hypotension**

Adverse Effects (cont)

Selective (B2) **albuterol/salbutamol**	**hypotension/hypertension**, **tremor**, headache

Interactions

↑ risk for hypertension

↑ risk for cardiac toxicity

require an adjustment to antihyperglycemic drugs

Anticholinergic Drugs

-pium

ipratropium (Atrovent)

tiotropium (Spriva)

Mechanism of Action

ACh causes bronchial constriction and narrowing of airways

bind to ACh receptors

~~ACh to receptors~~

slow and prolonged

~~bronchoconstriction~~

Adverse Effects

dry mouth or throat

nasal congestion

heart palpitations

GI distress

headache

coughing

anxiety

Xanthine Derivatives (Methylxanthine)

natural xanthines: alkaloids, caffeine, theobromine, and theophylline

theophylline only used a bronchodilator

synthethic: aminophylline (phyllocontin) & oxtriphylline

Mechanism of Action

↑ cAMP by ↓ **phosphodiesterase** (enzyme that breaks down cAMP)

SM relaxation, bronchodilation, ↑ airflow

Drug Effects

↑ contractility, ↑ HR → ↑ CO & blood flow to kidney

stimulate cardio and CNS system

Indications

asthma, chronic bronchitis, & emphysema (COPD)

mild to moderate cases of acute asthma

adjunct drug for COPD

Contraindications

known drug allergy

uncontrolled cardiac dysrhythmias

seizure disorders

hyperthyroidism

peptic ulcers

Adverse Effects

nausea, vomiting, anorexia

GI reflux during sleep

tachycardia, extra systole, palpitations, ventricular dysrhythmias

transient ↑ urination

Interactions

not used often due to many drug interactions

Several drugs increase serum levels of xanthine derivatives

used with sympathomimetics can increase ♥ and CNS stimulation

St. John's wort and cigarette smoking enhance rate of metabolism

charcoal broiling & keto diet ↓ xanthine effect

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