

	SYMPATHOMIMETIC	SEDATIVE/ HYPNOTIC	OPIATES	ANTICHOLINERGIC	CHOLINERGIC
Common Drugs	Cocaine, amphetamines, Some hallucinogens (PCP) MAOIs (with tyramine)	Benzodiazepines, Barbiturates, Alcohols/Glycols	Heroin, morphine, oxycodone, etc. (clonidine may present similarly but it is actually a “sympatholytic”)	Benadryl, TCAs Atropine, antipsychotics, antihistamines (generally muscarinic receptor antagonists)	Organophosphates, muscarinic mushrooms (pilocarpine, muscarine) nerve gas physostigmine neostigmine
Mental status	Restless, insomnia, paranoia, hallucinations, mania, anxiety	Sedation, confusion, delirium, ataxia, coma	Sedation, confusion, coma	Sedated → coma, Mad as a hatter: psychosis, delirium, chorea, seizures,	Weakness, confusion, drowsiness progressing to coma, seizures possible
Pupils	Mydriasis (large, reactive)	Blurred vision (miosis or mydriasis) Nystagmus	Miosis (small, fixed)	Mydriasis (large, fixed) Lack of accommodation	Miosis (small, fixed)
Vitals	Tachycardia, hypertension, hyperthermia	Hypothermia, hypotension, bradypnea	Shallow respirations, hypotension, bradycardia, hypothermia	Tachycardia, Fever (hyperthermia), orthostatic hypotension, hypertension possible	Brady or tachycardia (muscarinic vs. nicotinic activation, but brady more often) hypothermia, tachypnea, Hypo vs Hyper-tension (muscarinic vs. nicotinic activation)
Physical exam	Tremor, warm skin, diaphoresis, hypoactive bowel sounds	Similar to opiates, but milder	Decreased bowel sounds, hyporeflexia	Red as a Beet Dry as a Bone Blind as a Bat Mad as a Hatter Hot as Hades Urinary retention Hypoactive or absent bowel sounds Myoclonus; Hyperreflexic	Salivation Lacrimation Urination Defecation <i>hyperactive G.I.</i> (increased bowel sounds) Emesis diaphoresis paralysis muscle fasciculation hyporeflexic
Treatment	Decontaminate Supportive care- (benzos), mixed α/β blockade, Generic treatment of MI, CVA, rhabdomyolysis	Decontaminate, Supportive care, Rarely flumazenil— induces seizures	Decontaminate Narcan — depending on $t_{1/2}$ of opiate, may need additional doses	Decontaminate Supportive: Rx for fever, heart rate, blood pressure, mental status (benzos) etc. Cholinergic agents: e.g. physostigmine, neostigmine	Decontaminate 2-PAM (aka pralidoxime) Atropine

Nicotinic Receptor Agonists and Antagonists (paralyzing agents)

- 1) *Non-depolarizing/competitive (i.e. receptor antagonists)*: curare, atracurium, cisatracurium, mivacurium, doxacurium, pancuronium, pipercuronium, vecuronium.
- 2) *Depolarizing blockade (i.e. agonists that inhibit)*: succinylcholine, decamethonium.

Muscarinic Receptor Agonists (some have nicotinic agonism)

muscarine, arecoline, pilocarpine, oxotermorine, bethanecol, methacoline, carbachol

Muscarinic Receptor Antagonists

atropine, scopolamine, ipratropium, tiotropium, glycopyrrolate, propantheline, methantheline, homatropine, cyclopentolate, tropicamide

Anticholinesterases

- 1) *Short-acting, "reversible" inhibitors*: physostigmine, neostigmine, pyridostigmine, edrophonium, tacrine.
- 2) *Long-acting, "irreversible" inhibitors*: organophosphates, isofluorophate, sarin, parathion, malathion, echothiopate

Sympathomimetics

- 1) *MAOIs*: tranylcypromine, phenelzine, pargyline
- 2) *Reuptake inhibitors*: cocaine & TCAs (amytropyline, nortriptyline, imipramine, desipramine, doxepin)
- 3) *Displacing agents*: amphetamine, tyramine, methamphetamine, methylphenidate
- 4) *(Mostly) non-specific agonists*: epinephrine, norepinephrine, isoproterenol, dopamine, dobutamine
- 5) *Selective α_1 -agonists*: phenylephrine, methoxamine, mitrodine
- 6) *Selective α_2 -agonists*: clonidine, guanabenz, guanfacine, methyl dopa
- 7) *Selective β_2 -agonists*: albuterol, salmeterol, metaproterenol, terbutaline, ritodrine

Adrenergic Blockade

- 1) *α_1/α_2 -receptor antagonists*: phenoxybenzamine, phentolamine
- 2) *α_1 -receptor antagonists*: prazosin, terazosin, doxazosin, tamsulosin (Flomax)
- 3) *α_2 -receptor antagonists*: yohimbine
- 4) *β_1/β_2 -receptor antagonists*: propranolol, timolol, nadolol
- 5) *Selective β_1 -receptor antagonists*: metoprolol, atenolol, esmolol
- 6) *Mixed β_1/β_2 -antagonist, α_1 -antagonist & partial β_2 -agonist*: labetalol
- 7) *Mixed β_1/β_2 -antagonist & partial β_1/β_2 -agonist*: pindolol, acebutolol