


CNS Stimulants

- Stimulants are substances that induce a number of characteristic symptoms. CNS effects include alertness with increased vigilance and a sense of well-being and euphoria.

classification of controlled substances

- **Schedule I**
- These substances have no accepted medical use and have a high abuse potential. They cannot be prescribed.
- Cathinone (Khat)
- Fenethylline (captagon)
- Some Amphetamines (eg, 3,4-methylenedioxymethamphetamine [MDMA])

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- Cathinone is the active chemical in a shrub commonly known as khat (*Catha edulis*) and has been abused for centuries.

MDMA "ecstasy"

- MDMA "ecstasy" is derived from methamphetamine by the addition of another methyl group. This additional methyl group confers increased lipophilicity to MDMA, leading to its rapid entry into the brain.
- Because of concerns regarding addiction, it was labeled as a schedule I hallucinogen.

- MDMA acts as an indirect sympathomimetic, stimulating release and inhibiting reuptake of norepinephrine, dopamine and serotonin.
- Causes tachycardia, elevated blood pressure, increased energy, anorexia, and increased concentration.
- It is a drug that rapidly induces tolerance and diminishing responsiveness via a unique mechanism, destruction of serotonergic axon terminals (a neurotoxin)

Schedule II

- These substances have a high abuse potential with severe psychic or physical dependence liability. Prescriptions must be written in ink or typewritten and must be signed by the practitioner
- Cocaine
- Dextroamphetamine - Dexedrine
- Methamphetamine - Desoxyn
- Methylphenidate - Ritalin
- Phenmetrazine - Preludin

Amphetamines

- Amphetamines include dextroamphetamine and methamphetamine.
- Amphetamines release presynaptic norepinephrine, dopamine and serotonin (cocaine inhibits reuptake of these NT). They also block their reuptake, inhibit MAO and may have direct effects on receptors of these NT.
- Amphetamines were initially used in inhalers for nasal congestion. The use of amphetamines, which were not controlled substances, spread to athletes, truck drivers, and the general population to promote alertness.

- Amphetamines are currently used to treat narcolepsy and attention-deficit/hyperactivity disorder (ADHD).
- They have been used and abused for weight control in individuals with eating disorders or obesity.
- Causes tachycardia, elevated blood pressure, increased energy, anorexia, and increased concentration.
- Cocaine has similar actions to amphetamines and it is used as a local anaesthetic in ENT and eye operations.

Schedule III

- These substances have an abuse potential less than those in schedules I and II
- Benzphetamine - Didrex
- Chlorphentermine
- Clortermine

Schedule IV

- These substances have an abuse potential less than those in schedule III.
- Norpseudoephedrine
- Diethylpropion
- Phentermine
- Mazindol