1. **CNS Stimulant Drugs**
   - DA agonists, esp. at DA2,3 & 4 RSs
   - Amphetamines – reverses DA reuptake transporter protein & inhibits other neurons that normally block DA release more DA released by neurons
   - Cocaine – blocks the reuptake transporter protein for DA, NE and 5HT
   - Both greater accumulation of DA in synaptic cleft (which then can presynaptic autoreceptors to be stimulated by the DA less DA then secreted + presynaptic cell has become depleted of DA (and only slowly can synthesize more) lack of DA in synaptic cleft post-stimulant use “crash” (incl. depression)
   - Methylphenidate (Ritalin) – also blocks (more slowly) reuptake of DA and is taken at a smaller dose level (is much less prone to abusive use)

2. **Nicotine**
   - Stimulates nicotinic ACh RSs in nucleus accumbens increase release of DA

3. **Opiates**
   - Stimulate endorphin RSs inhibits ventral tegmental neurons
   - Ventral tegmental neurons normally secrete GABA which inhibits the release of DA in other neurons
   - So, opiate use causes inhibition of the VT inhibition “disinhibition” of the DA releasing neurons more DA released

4. **Marijuana**
   - Stimulate the Cannabinoid RSs that use “anandamide” NT
   - Limits release of both GABA and glutamate
   - May be useful in preventing brain damage after a stroke
   - Is approved for use in decreasing nausea and increasing appetite
   - Can decrease pain, but is not approved for this use
   - Increases risk for PD; for lung cancer (if smoked); possible abuse
5. **Hallucinogenic Drugs**
   - Many resemble 5HT molecule and stimulate 5HT2A RS
   - Others block ACh Muscarinic RS

6. **Alcohol (ethanol)**
   - Inhibits flow of Na+ across cell membrane
   - Expands surface of cell membrane
   - Stimulates the GABA RSs
   - Blocks glutamate RSs
   - Increases DA activity in neurons
   - Comparison of Type I (later, gradual onset, less genetic) vs. Type II (earlier, rapid onset, more genetic, more severe, esp. males)
   - Less 5HT activity in Type II ⇒ greater impulsivity, violence
   - Higher risk for alcohol abuse ⇒ sons of alcoholic males, greater resistance to intoxication effects from alcohol, greater relief from tension/stress/anxiety with alcohol use, & smaller R amygdala