10. Classes of Neurotransmitters
   a. Amines: acetylcholine, dopamine, norepinephrine, serotonin
   b. Amino Acids: neutral amino acids (GABA, glycine), glutamate/glutamic acid
   c. Peptides: opioids

11. Drug targets in CNS disease: Presynaptic neuron, neurotransmitter synthesis, storage, metabolism, release, uptake, and degradation, post-synaptic receptor, ionic conductance, etc.

CNS Diseases
1. Drug Goals
   a. Depression: Enhance serotonin and norepinephrine transmission
   b. Pain: μOR agonists
   c. Psychosis/Schizophrenia: Block dopamine receptor activity

2. Pathogenesis of Depression
   a. Monoamine hypothesis: Depression reflects deficiency in serotonin and norepinephrine transmission in CNS. Reserpine can chemically induce depression. All effective anti-depressants affect norepinephrine, serotonin and dopamine.
   b. Neurotrophic hypothesis: Depression reflects loss of synaptic connectivity. Depressed patients have a loss of volume in hippocampus and dendritic sprouting. If you increase BDNF, you can promote dendritic sprouting, synaptic connectivity, and neurogenesis. Anti-depressants and electroconvulsive treatment boost BDNF.