Important Neurotransmitters to Know

Neurotransmitter	*Function*	*Problems with Excess, Deficit*
Acetylcholine (ACh)	• critical to motor movement (deliver messages from neurons to muscles) • learning • memory	• deficits in ACh production in Alzheimer's disease
Dopamine	• motor movement • alertness, attention	• deficit: Parkinson's disease • excess: schizophrenia ○ schizophrenia often treated with *antipsychotic drugs*: block dopamine receptors, limiting the amount of dopamine being transmitted across synapse
Endorphins	• pain control, stress reduction • feelings of pleasure • "natural opiates"	• deficits potentially involved in addiction?
GABA (gamma-aminobutyric acid)	• brain's major inhibitory neurotransmitter	• deficit: seizures, insomnia
Glutamate	• brain's major excitatory neurotransmitter • creates links between neurons that form basis of learning, long-term memory	• excess: overstimulation of brain (seizures?) (This is why people avoid food with MSG. MSG = monosodium **glutamate**)
Norepinephrine (aka. noradrenaline)	• "fight or flight" • controls alertness, arousal • elevates heart rate, circulation, respiration, etc. • mood elevation	• deficit: depressed mood
Serotonin	• mood regulation • hunger, sleep	• deficit: depressed mood ○ depression often treated with *selective serotonin reuptake inhibitors (SSRIs)*: prevent serotonin from being reabsorbed in uptake, thus leaving more serotonin in synapses