Suboxone: neuron and post-synaptic potentials

Science, Physics

Suboxone BiologicalPsychologySuboxone | Addiction psychology has made a great impact on the field of biological psychology, especially when it comes to subjects such as | | psycho-pharmacology. The abuse of prescription pain medicine has risen to an estimated 9 million in America alone who take the medication for | | non-medical reasons. The psychology field has had a new revolution in addiction control called Suboxone. In order for psychiatric doctors or other| | doctors to prescribe this medicine they are required to complete a training course on the substance.

Rapidly replacing Methadone, a more | | traditional detox and maintenance drug used for many years, Suboxone seems to have many treatment advantages over it. | | Buprenophine | | Buprenophine, the chemical compound found in Suboxone has stated that it is suitable for people who still have social ties to their families and | | employers whereas Methadone is suited best for those who need additional structure in their treatment with more supervision.

While it is nearly | | impossible to overdose on Suboxone due to its ceiling effect, Methadone is easily abused as it is a full-agonist opiate. Another advantage that | | Suboxone has over Methadone is it readability. Where patients must go to Methadone clinics for dosing, doctors can prescribe Suboxone for a month | | at a time, allowing patients to detox and maintain their treatment. Buprenophine is available in two pill forms, one without Naloxone-called | | Subutex, or one with Naloxone-called Suboxone.

Naloxone is a well known opiate antagonist, that when injected, causes instant withdraw in the | | patient. Putting this ingredient as an additive with

Buprenophine keeps the drug from being abused. Buprenophine is usually prescribed for just a | | few weeks, but some patients may need maintenance doses depending on their opiate usage and/or dependency. In order to better understand the way | | Suboxone and other opiates work within the central nervous system individuals should understand post-synaptic potentials, synaptic ransmission, the| | receptors that produce and regulate behavior (including abusing opiates), as well as understanding and knowing the primary neurotransmitters and | | their role in brain function and behavior. | | Excitatory and Inhibitory Post-synaptic Potentials | | The role of excitatory and inhibitory post-synaptic potentials is summed up by NCBI Bookshelf (n. d. ; | |“ Postsynaptic conductance changes and the potential changes that accompany them alter the probability that an action potential will be produced in | | the postsynaptic cell. Post-synaptic Potentials decrease the probability that the post synaptic cell will generate an action potential. PSPs are | | called excitatory (or EPSPs) if they increase the likelihood of a postsynaptic action potential occurring, and inhibitory (or IPSPs) if they | | decrease this likelihood.

Given that most neurons receive inputs from both excitatory and inhibitory synapses, it is important to understand more | | precisely the mechanisms that determine whether a particular synapse excites or inhibits its postsynaptic partner. “ | | Synaptic Transmission and Receptors Producing and Regulating Behavior | | Neurons communicate through synaptic transmission.

The synapse can be found as a tiny gap found in the middle of the axon terminal and the neuron | | next to it. Neurotransmitters are chemical substances that are located in synaptic vesicles are responsible for delivering messages across the | | synapse and bind to the receptor sites. When a molecule of a neurotransmitter binds to the receptor it then continues to activate or inhibit the | | neuron until the deactivation occurs.

A method of deactivation is called re-uptake, allowing the neurotransmitter molecules to be delivered back to| | the presynaptic neuron. Various drugs, including opiates such as hydrocodone or methadone function as agonists because they increase the activity | | of the neurotransmitter while others such as Naloxone act as antagonists decreasing the activity of the neurotransmitter. | | Primary Neurotransmitters | | The three major neurons located in the nervous system are the sensory, motor, and inter-neurons.

Sensory neurons are responsible to input messages | | from the sense organs to the spinal cord and brain. Motor neurons carry impulses from the brain and spinal cord to the muscles and organs. | | Interneurons perform connective or associative functions within the nervous system. The brain and spinal cord are called the central nervous system | | while all neurons that connect the CNS to the muscles, glands, and sensory receptors are located in the peripheral nervous system.

In this regard, | | the PNS is divided into two systems: the somatic nervous system that includes sensory and motor neurons, and the autonomic nervous system required to| | regulate glands as well as other involuntary functions such as circulation, breathing, and digestion. The autonomic nervous system

consists of two | | branches as well. The sympathetic branch activates or arouses bodily organs while the parasympathetic branch does the complete opposite. Most | | nerves enter and leave the CNS via the spinal cord. | | |