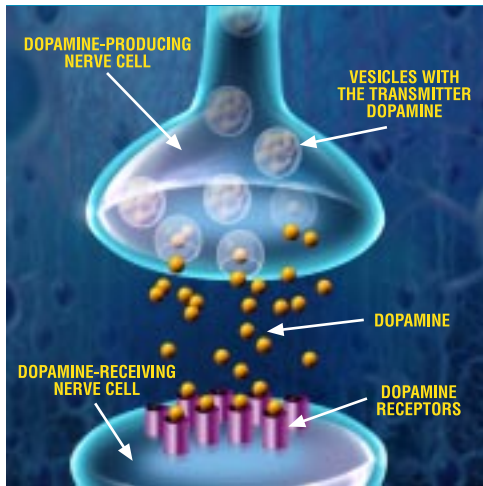
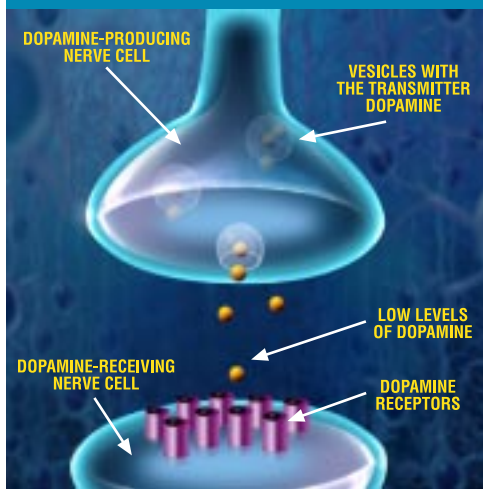


RECOMPO science 101



In a normal brain dopamine allows messages to travel across nerve endings.



In Parkinson's Disease dopamine is low or missing and the message fails to travel across the nerve connections.

The intended body movement is slow or does not happen at all.

Serotonin: A hormone, also called 5-hydroxytryptamine, in the pineal gland, blood platelets, the digestive tract, and the brain. Serotonin acts both as a chemical messenger that transmits nerve signals between nerve cells and that causes blood vessels to narrow.

Changes in the serotonin levels in the brain can alter the mood. For example, medications that affect the action of serotonin are used to treat depression. Additionally, serotonin is involved in promoting healthy sleep, carbohydrate cravings and metabolism.

Endorphin: One of the body's own painkillers, an opioid (morphine-like) chemical produced by the body that serves to suppress pain.

Endorphins are manufactured in the brain, spinal cord, and many other parts of the body. They are released in response to neurotransmitters and bind to certain neuron receptors (the same ones that bind opiate medicines). Endorphins act as analgesics (diminishing the perception of pain) and as sedatives.

Chemically, endorphins are peptides (amino acid chains that are shorter than proteins) and they are rapidly inactivated by enzymes called peptidases.

Lipid: Another word for "fat." (Please see the various meanings of Fat.) A lipid is more formally defined as a substance such as a fat, oil or wax that dissolves in alcohol but not in water. Lipids contain carbon, hydrogen and oxygen but have far less oxygen proportionally than carbohydrates.

Lipids are an important part of living cells. Together with carbohydrates and proteins, lipids are the main constituents of plant and animal cells.

Cholesterol and triglycerides are lipids. Lipids are easily stored in the body. They serve as a source of fuel and are an important constituent of the structure of cells.

Lipids include fatty acids, neutral fats, waxes and steroids (like cortisone). Compound lipids (lipids complexed with another type of chemical compound) comprise the lipoproteins, glycolipids and phospholipids.

Dopamine: An important neurotransmitter (messenger) in the brain.

Dopamine is classified as a catecholamine (a class of molecules that serve as neurotransmitters and hormones). It is a monoamine (a compound containing nitrogen formed from ammonia by replacement of one or more of the hydrogen atoms by hydrocarbon radicals). Dopamine is a precursor (forerunner) of adrenaline and a closely related molecule, noradrenaline. Dopamine is formed by the decarboxylation (removal of a carboxyl group) from dopa.

Dopa is used in the treatment of Parkinson disease. Parkinson disease is believed to be related to low levels of dopamine in certain parts of the brain. When dopa is taken by mouth, it crosses through the blood-brain barrier. Once it has crossed from the bloodstream into the brain, it is converted to dopamine. The resulting increase in dopamine concentrations in the brain is thought to improve nerve conduction and to assist in lessening the movement disorders in Parkinson disease.

In 1970 the FDA (Food and Drug Administration) approved dopa in the form of L-Dopa, or levodopa, for use in the US. The drug revolutionized the treatment of Parkinson disease.

Cortisol: The primary stress hormone. Cortisol is the major natural GLUCOCORTICOID (GC) in humans. Studies show that excess amounts of this "stress hormone" can contribute to increased belly fat in men and women.