

# Anabolic steroids case study

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Anabolic Steroids – The Nervous System  
The main purpose of the Nervous System is communication through electrical impulses. The nervous system allows for the coordination of all systems.

It has the ability to detect and respond to stimuli. Neurons make up nervous tissue and have the ability to transmit electrical impulses. The nervous system consists of the central nervous system as well as the peripheral nervous system.

The central nervous system is comprised of the brain and the spinal cord. The peripheral nervous system is comprised of the somatic nervous system and the autonomic nervous system. Testosterone and Anabolic Steroids have been found to affect the Central Nervous System, with changes in the brain's neurotransmitter pathways.

Testosterone production is controlled by a group of nerve cells at the base of the brain, called the Hypothalamus. The hypothalamus helps in controlling appetite, blood pressure, mood and reproductive ability.

Anabolic Steroids can alter the messages that the hypothalamus sends to the body, which can disrupt normal hormone function. Anabolic Steroids have an effect on the brain's neurotransmitter system. They affect the serotonin and dopamine neurotransmitter systems. Dopamine is a multifunction neurotransmitter participating in the regulation of mobility, learning, emotions, appetite, and positive reinforcing effects.

Dopamine is also responsible for addiction development. Serotonin regulates sleep patterns, movement, appetite, sexuality and emotions.

Studies show that Androgenic compounds (Synthetic hormones) such as Androgen, have been found to have direct activating functions for Dopamine and Serotonin release. Anabolic Steroids cause both physical and psychological illnesses. Anabolic steroid users have been associated with psychiatric disorders and increased use of intoxicants. People often experience mood disorders that meet the criteria of psychiatric diseases such as depression, anxiety, and psychotic reactions.

Often leading an individual to become uncontrollable due to the amplified state of the ego also referred to as “Roid Rage”. Androgen when administered in high doses was found to cause peripheral changes commonly seen after by users, such as increased red blood synthesis. Large doses of anabolic steroids have been demonstrated to induce apoptosis, programmed cell death in many cell types including neuronal cells. Steroids are likely to result in irreversible changes in the Nervous System.

Although the cons outweigh the pros, steroids enable the user to train at a high level of intensity daily.

The high androgen levels in the blood protect the central nervous system from burning out, so over-training while on steroids is near impossible. In my opinion, the benefits of anabolic steroids do not outweigh the ill effects. I would like to educate the users to anabolic steroids on the adverse effects of these drugs. Perhaps knowledge of these adverse effects will steer individuals away from consuming these drugs.