

## **Cannabis**

Cannabis is the active component in hemp, in which D9-Tetrahydrocannabinol the most potent component. There is an array of different hemp products available which are prepared in different ways:

- 1) Marijuana is a mixture of dried flowers and leaves
- 2) Hashish is the resin found in the tip of the blooming female plant
- 3) Hashish oil is an oily hashish extract

Hashish oils reach the blood especially quickly. From there they are rapidly transported into the brain because of their lipophilic properties. They are also stored in fat tissue from which they are eliminated very slowly from the body. Studies show that the uptake of D9-Tetrahydrocannabinol is significantly higher when it is inhaled than when it is taken orally. The action begins within minutes, reaches its maximum after half an hour, and ends in 3-4 hours.

There are several different cannabis receptors that are detectable in the human body. The CB2-Receptor is found mostly on cells belonging to the immune system, while the CB1-Receptor is primarily located in the brain on presynaptic nerve endings where they inhibit the release of neurotransmitter substances. The effects of cannabis on the central nervous system and in the periphery are caused by this mechanism. Actions on the central nervous system include relaxation, slight euphoria, more intensive perception of the senses, disturbance of time perception, pain relief, feelings of well being, fatigue to apathy, reduced cognitive abilities, estrangement from the body, and decreased nausea. In the periphery, another set of actions occur, such as vasodilatation (especially in the eyes), hunger, dilation of the bronchi, tachycardia, and variations of the blood pressure. When massive abuse, high doses, and a predisposition in personality structure are combined, psychotic conditions with hallucinations and panic disorders can occur. Many abusers report that cannabis causes a sense of well being in combination with relaxation and fatigue. At the same time, it can cause changes in the perception of the senses and memories can become mixed up with present and future experiences causing the user's connection to reality to become poorly defined. Regular misuse can lead to a reduction of functions such as concentration, memory, and information processing.

When combined with a pre-existing personality structure, cannabis can also trigger psychotic symptoms with false visual perceptions, delusions, anxiety and panic attacks, and hallucinations. Abstinence can cause withdrawal symptoms in addicted patients such as depression, psychosis or anxiety attacks. Other symptoms include intensive cravings for cannabis, sleep disturbances, irritability, restlessness, nausea, vomiting, loss of appetite, and gastrointestinal cramps. Long periods of abuse can lead to a condition of decreased cognitive ability and to the so called "Amotivational Syndrome" characterized by disturbances in the stimulation and concentration.

Psychotherapy is recommended for patients addicted to cannabis since they suffer mostly from mental symptoms. If depression is present or occurs during the therapy, it can be treated with antidepressant medications.

Cannabis is unique among addictive substances because the public opinion is so divided concerning its danger and addictive qualities versus exaggerated scaremongering. The reason for this divergence is grounded in the different ways that addictive substances are judged by laws. The extreme view that cannabis is completely harmless seems to be a

reaction against laws that make even the medical use of cannabis difficult and criminalized, while alcohol, a substance that is scientifically proven to have a much higher addictive and destructive potential, can be purchased freely. In the face of this situation, a movement has grown over the years that questionably belittles the dangers of cannabis and glorifies its abuse. However, it is not contended that cannabis is an addictive substance and those that abuse it risk becoming addiction, as is the case with all other addictive substances.