Medical Consequences of Drug Abuse

In order to successfully treat all the damage done by substance abuse, it is necessary to analyse which parts of the body are affected by which drugs. By targeting the specific area that has been damaged by drug abuse, a successful recovery with minimum risk of relapse is more likely.

Brain

Being the control center of the whole body, the brain determines our reactions to certain stimulants. All drugs manipulate the brain, resulting in excessive releases of chemicals such as dopamine and serotonin ('happy hormones'), or the production of new chemical pathways based on the foreign chemicals that have been introduced into the body. Such changes in the delicate chemistry of the brain can result in strokes, memory problems, seizures, hallucinations, aggression, mental breakdown and reduced cognitive processing ability.

Immune System

The immune system is the body's defence against foreign bodies that may cause harm to organs and other tissues. There are a number of ways the immune system can be impaired or damaged by drug abuse. Abusing drugs represses inhibitions and can lead to irresponsible acts such as unsafe sex, which increases the risk of contracting HIV/AIDS. Sharing needles to inject drugs also increases this risk. Regular drug use encourages the body to develop a tolerance to the specific drug being abused, which leads to a weakening of the immune system because the body isn't reacting the way it should to these foreign chemicals.

Heart

Most drugs have a stimulant effect on the heart, that is, they cause an increase in blood pressure and heart rate. This in itself is dangerous enough as the risk of cardiac arrest and heart failure is increased, but if this is coupled with a surge of adrenalin, another effect of drug abuse, sudden death can become a very real hazard. Additional risks to the heart can include hardening of the arteries, collapsed veins and septicaemia.

Lungs

As most drugs affect the heart rate, thus most drugs affect breathing. With an increase in heart rate, an increase in breathing usually follows, making the lungs work harder. Some substance abuse can result in a decreased capability of the lungs to absorb oxygen, whilst others can have a corrosive effect on the lung tissue itself. These effects can lead to lung diseases and ailments such as asthma and lung cancer.

Stomach

Ingesting foreign chemicals is of course going to damage the stomach to some degree. Burning of the stomach wall can occur, which may lead to severe stomach ulcers or even gastrointestinal cancers. The digestive system may be permanently impaired and damaging reactions between stomach acids and the ingested drugs may occur, often resulting in nausea, vomiting and severe stomach cramps and pains.

Bones and Muscles

Drugs such as steroids, which are synthetic versions of natural hormones, can signal the body to stop growing or developing. This can result in stunted growth, where the bones abruptly stop growing, or permanent sexual immaturity. Some drugs can cause violent muscle spasms which can result in long term muscle damage and abnormal or halted growth.

Kidneys

The kidneys control the process of cleansing the blood by filtering it of waste and toxins. Normal bodily processes, such as digestion, result in waste being produced, which is passed into the bloodstream. The kidneys then filter these wastes out of the blood and convert them into urine, which is then passed out of the body. If there is too much waste or high levels of toxins in the blood, for example during substance abuse, the kidneys become overworked and poisoned, which can lead to renal failure. Renal failure may also occur as a result of prolonged elevated blood pressure, another effect of drug abuse.

Liver

The liver plays a large role in every process that takes place in the body as it produces most of the chemicals that are needed for these processes. It also helps detoxify the blood and absorbs nutrients digested by the stomach. Substance abuse can cause severe damage to the liver, which can lead to a breakdown of normal bodily functions and processes and complete liver failure.

Behaviour

Most drugs cause a change in behaviour, which is the desired effect in most cases. However, often this change in behaviour can be permanent, leading to other behavioural disorders. Long term drug abuse can lead to personality disorders, such as schizophrenia, depression and paranoia. Complete character changes can also occur, which can be extremely frightening for friends or family of the drug user, as they may feel they don't know them anymore.

Hormones

Drugs such as steroids can have a damaging effect on normal hormone levels. Females may experience a deepening voice, facial hair growth, amenorrhoea, breast reduction

and balding, whereas males may show breast formation, testicular reduction and dysfunction, impotence and abnormal sperm. Most drugs affect the normal production of hormones such as adrenalin, serotonin, dopamine and other important hormones. Altering the normal production of these hormones can result in abnormal and erratic behaviour.

Pregnancy

Abusing drugs not only harms your body but the developing foetus too. Substance abuse can increase the risk of miscarriage and developmental abnormalities. Premature birth can occur as well as infant dependence on the substance that is being abused, which can result in terrible withdrawal symptoms for such a helpless and innocent child. The process of weaning the child from the drug can, in itself, cause the infant to die.

Cancer

Most drugs are classed as carcinogens, that is, they can cause cancer. Not only do drugs affect the body in the areas mentioned above, all these areas are then exposed to an increased risk of cancer as a direct result.

It is important to assess the extent of the damage done to the individual organs of the body by substance abuse in order to treat and repair it successfully, which in turn will greatly increase the chances of recovery from drug addiction and prevent relapse.