

## Why Will Power is not enough in Drug Addiction

The phrase “if only he had more will power, he has no self control,” are phrases I commonly hear from parents, relatives who have experienced first hand or know of someone who is suffering from drug addiction. This misconception has very little to do with will power or self-control once the brains receptors/sensor have been stimulated by the use of drugs. It will take more than strong will power or self- control to overcome. Will power may be the means, which starts the dependant to seek help but only when the character and core value’s change can one begin the process to break the bondage of addiction. Let us take a closer look at addiction, types of drugs, and their effects, why people take drugs, their effect on the brain and prolonged use and lastly the role of Breakthrough Drug Rehabilitation Centre.

### What is Drug Addiction?

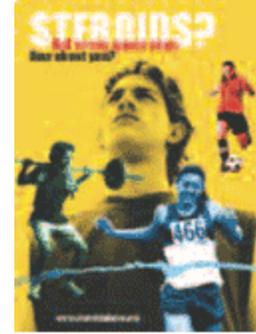
Addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain - they change its structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs.

### What are Some Effects of Specific Abused Substances?

- **Nicotine:** is an addictive stimulant found in cigarettes and other forms of tobacco. Tobacco smoke increases a user's risk of cancer, emphysema, bronchial disorders, and cardiovascular disease.
- **Alcohol:** consumption can damage the brain and most body organs. Areas of the brain that are especially vulnerable to alcohol-related damage are the cerebral cortex (largely responsible for our higher brain functions, including problem solving and decision-making), the hippocampus (important for memory and learning), and the cerebellum (important for movement coordination).
- **Marijuana:** is the most commonly abused illicit substance. This drug impairs short-term memory and learning, the ability to focus attention, and coordination. It also increases heart rate, can harm the lungs, and can cause psychosis in those at risk.

- **Inhalants:** are volatile substances found in many household products, such as oven cleaners, gasoline, spray paints, and other aerosols, that induce mind-altering effects. Inhalants are extremely toxic and can damage the heart, kidneys, lungs, and brain. Even a healthy person can suffer heart failure and death within minutes of a single session of prolonged sniffing of an inhalant.
- **Cocaine:** is a short-acting stimulant, which can lead abusers to "binge" (to take the drug many times in a single session). Cocaine abuse can lead to severe medical consequences related to the heart, and the respiratory, nervous, and digestive systems.
- **Amphetamines:** including methamphetamine, are powerful stimulants that can produce feelings of euphoria and alertness. Methamphetamine's effects are particularly long lasting and harmful to the brain. Amphetamines can cause high body temperature and can lead to serious heart problems and seizures.
- **Ecstasy (MDMA):** produces both stimulant and mind-altering effects. It can increase body temperature, heart rate, blood pressure, and heart wall stress. Ecstasy may also be toxic to nerve cells.
- **LSD:** is one of the most potent hallucinogenic, or perception-altering, drugs. Its effects are unpredictable, and abusers may see vivid colors and images, hear sounds, and feel sensations that seem real but do not exist. Abusers also may have traumatic experiences and emotions that can last for many hours. Some short-term effects can include increased body temperature, heart rate, and blood pressure; sweating; loss of appetite; sleeplessness; dry mouth; and tremors.
- **Heroin:** is a powerful opiate drug that produces euphoria and feelings of relaxation. It slows respiration and can increase risk of serious infectious diseases, especially when taken intravenously. Other opioid drugs include morphine, OxyContin, Vicodin, and Percodan, which have legitimate medical uses; however, their nonmedical use or abuse can result in the same harmful consequences as abusing heroin.
- **Prescription medications:** are increasingly being abused or used for nonmedical purposes. This practice cannot only be addictive, but in some cases also lethal. Commonly abused classes of prescription drugs include painkillers, sedatives, and stimulants. Among the most disturbing aspects of this emerging trend is its prevalence among teenagers and young adults, and the common misperception that because physicians prescribe these medications, they are safe even when used illicitly.

- **Steroids:** which can also be prescribed medical conditions, are abused to increase muscle mass and to improve athletic performance or physical appearance. Serious consequences of abuse can include severe acne, heart disease, liver problems, stroke, infectious diseases, depression, and suicide.
- **Drug combinations:** A particularly dangerous and not uncommon practice is the combining of two or more drugs. The practice ranges from the co-administration of legal drugs, like alcohol and nicotine, to the dangerous random mixing of prescription drugs, to the deadly combination of heroin or cocaine with fentanyl (an opioid pain medication).



## Why do People Take Drugs?

In general, people begin taking drugs for a variety of reasons:

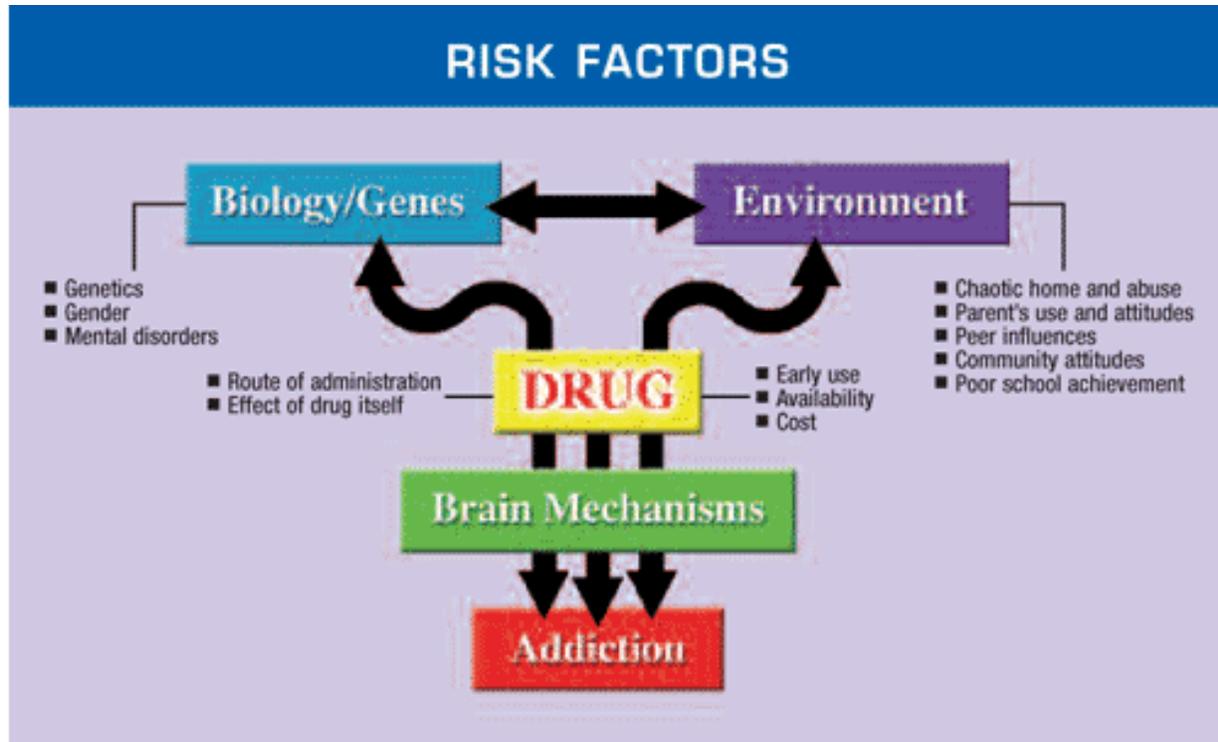
- **To feel good:** Most abused drugs produce intense feelings of pleasure. This initial sensation of euphoria is followed by other effects, which differ with the type of drug used. For example, with stimulants such as cocaine, the "high" is followed by feelings of power, self-confidence, and increased energy.
- **To feel better:** Some people who suffer from social anxiety, stress-related disorders, and depression begin abusing drugs in an attempt to lessen feelings of distress. Stress can play a major role in beginning drug use.
- **To do better:** The increasing pressure that some individuals feel to chemically enhance or improve their athletic or cognitive performance.
- **Curiosity and "because others are doing it,"** In this respect adolescents are particularly vulnerable because of the strong influence of peer pressure.

## If taking Drugs makes People Feel Good or Better, What's the Problem?

At first, people may perceive what seem to be positive effects with drug use. They also may believe that they can control their use; however, drugs can quickly take over their lives. Over time, if drug use continues, pleasurable activities become less pleasurable, and drug abuse becomes necessary for abusers to simply feel "normal." Drug abusers reach a point where they seek and take drugs, despite the tremendous problems caused for themselves and their loved ones.

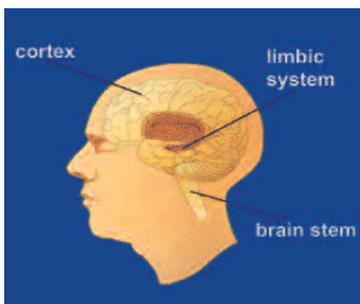
## Risk Factors

No single factor determined whether a person would become addicted to drugs; however, there are genetic and environmental factors, which increase the risk as seen below.



## Introducing the Human Brain

The human brain is the most complex organ in the body. Drugs can alter important brain areas that are necessary for life-sustaining functions and can drive the compulsive drug abuse that marks addiction. From this picture, we can see:



- **The brain stem:** controls basic functions critical to life, such as heart rate, breathing, and sleeping.
- **The limbic system:** contains the brain's reward circuit - it links together a number of brain structures that control and regulate our ability to feel pleasure. Feeling pleasure motivates us to repeat behaviors. In addition, the limbic system is responsible for our perception of other emotions, both positive and negative, which explains the mood-altering properties of many drugs.
- **The cerebral cortex:** is divided into areas that control specific functions. Different areas process information from our senses, enabling us to see, feel, hear, and taste. The front part of the cortex, the frontal cortex or forebrain, is the thinking center of the brain; it powers our ability to think, plan, solve problems, and make decisions.

**All drugs of abuse target the brain's reward system by flooding the circuit with dopamine.**

**How do Drugs Work in the Brain?**

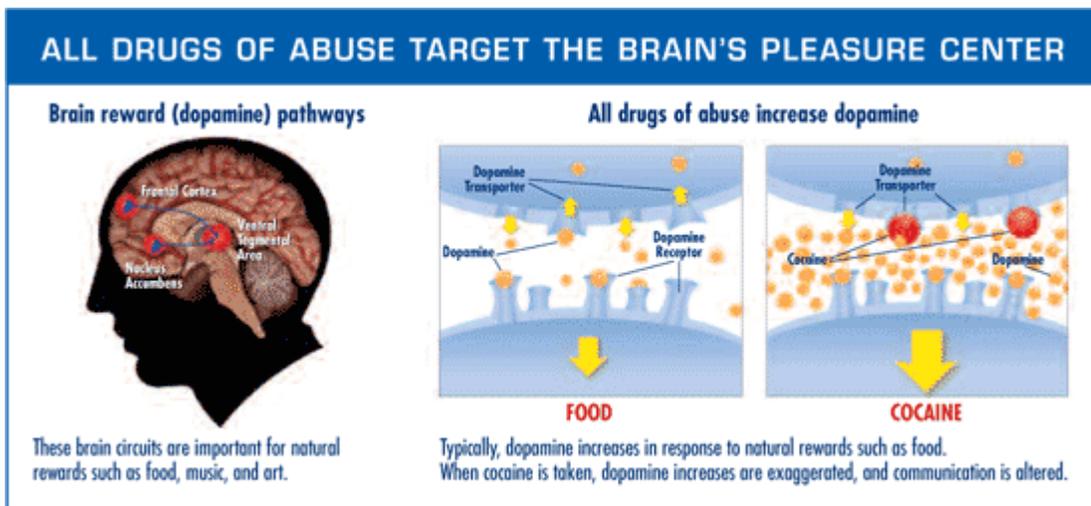
Drugs are chemicals. They work in the brain by tapping into the brain's communication system and interfering with the way nerve cells normally send, receive, and process information.

**How do Drugs Work in the Brain to Produce Pleasure?**

All drugs of abuse directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in regions of the brain that regulate movement, emotion, cognition, motivation, and feelings of pleasure. Overstimulation of this system, which rewards our natural behaviors, produces the euphoric effects sought by people who abuse drugs and teaches them to repeat the behavior.

**How does Stimulation of the Brain's Pleasure Circuit teach us to keep Taking Drugs?**

Our brains are wired to ensure that we will repeat life-sustaining activities by associating those activities with pleasure or reward. Whenever this reward circuit is activated, the brain notes that something important is happening that needs to be remembered, and teaches us to do it repeatedly, without thinking about it. Because drugs of abuse stimulate the same circuit, we learn to abuse drugs in the same way.



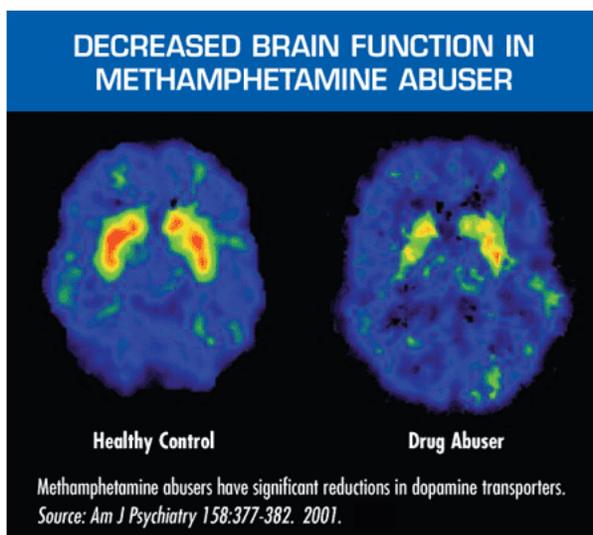
## Why are Drugs more Addictive than Natural Rewards?

When some drugs of abuse are taken, they can release 2 to 10 times the amount of dopamine that natural rewards do. In some cases, this occurs almost immediately (as when drugs are smoked or injected), and the effects can last much longer than those produced by natural rewards. The resulting effects on the brain's pleasure circuit dwarfs those produced by naturally rewarding behaviors such as eating and sex. The effect of such a powerful reward strongly motivates people to take drugs repeatedly.

**Long-term drug abuse impairs brain functioning.**

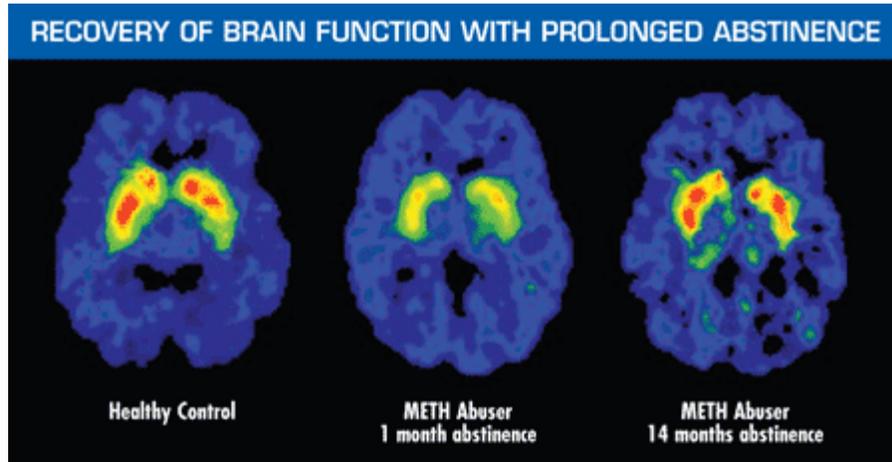
## What Happens to Your Brain if you keep taking Drugs?

Just as we turn down the volume on a radio that is too loud, the brain adjusts to the overwhelming surges in dopamine (and other neurotransmitters) by producing less dopamine or by reducing the number of receptors that can receive and transmit signals. As a result, dopamine's impact on the reward circuit of a drug abusers brain can become abnormally low, and the ability to experience any pleasure is reduced. This is why the abuser eventually feels flat, lifeless, and depressed, and is unable to enjoy things that previously brought them pleasure. Now, they need to take drugs just to bring their dopamine function back up to normal. (See picture below)



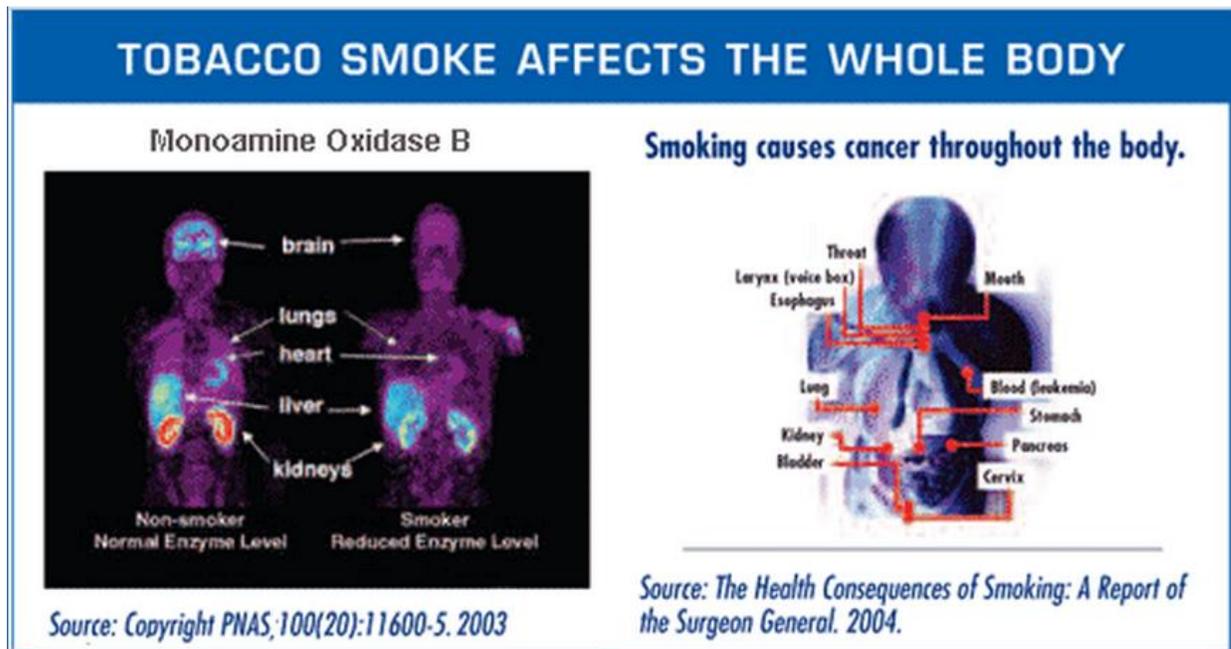
### Can Addiction be Cured?

Addiction need not be a life sentence. Like other chronic diseases, addiction can be managed successfully. Treatment enables people to counteract addiction's powerful disruptive effects on brain and behavior and regain control of their lives.



**These images of the dopamine transporter show the brain's remarkable potential to recover, at least partially, after a long abstinence from drugs - in this case, methamphetamine.**

Picture Source: *The Journal of Neuroscience*, 21(23): 9414-9418.2001



**TOBACCO SMOKE AFFECTS THE WHOLE BODY**

**Monoamine Oxidase B**

The infographic compares enzyme levels in non-smokers and smokers. On the left, a 'Non-smoker' is shown with 'Normal Enzyme Level' in various organs. On the right, a 'Smoker' is shown with 'Reduced Enzyme Level' in the same organs. Labels include: brain, lungs, heart, liver, and kidneys.

**Smoking causes cancer throughout the body.**

A diagram of the human body shows various sites where smoking causes cancer, indicated by red arrows pointing to: Throat, Mouth, Larynx (voice box), Esophagus, Lung, Blood (leukemia), Stomach, Kidney, Bladder, Pancreas, and Cervix.

Source: Copyright PNAS, 100(20):11600-5. 2003

Source: *The Health Consequences of Smoking: A Report of the Surgeon General*. 2004.

## **Role of Breakthrough Drug Rehabilitation Centre**

Youth are growing up faster than ever, faced with many challenges and stressful situations such as school, finance, peer pressure and relationships. While some stress is healthy to provide motivation, if stress becomes unmanageable and youth are left without guidance, they may find their own ways of coping. Sometimes these coping mechanisms involve unhealthy behaviors such as drinking, smoking, drugs and engage in risky behavior.

Unfortunately, the drug problem among youth in Malaysia has escalated. At Breakthrough DRC, we believe in the value of every human life especially those trapped in addiction. At Breakthrough DRC, our purpose is to bring hope to the hopeless and restore dignity to people whom society has rejected through the message of the Gospel, based on Romans 4: 17b, "God who gives life to the dead and call things which are not as though they were."

Our objective at Breakthrough DRC is to work with individuals who have been rejected by their families and society because of the use of drugs. We offer a two-year programme, which is divided into five phases. These phases focus on experiencing the reality and power of God, surrendering one life to Christ, building Godly character, (Character is the inward motivation to do what is right, whatever the cost.) and re-entry back into society. At Breakthrough, we offer individual and group therapies.

Addiction need not be a lifelong sentence, with prolonged abstinence, change of character and core value belief system; one can break the bondage of addiction. It is my desire that the information provided would be informative and equip parents, teachers, and caregivers with a better understanding to handle challenges faced by today's youth. It is never too early, prevention saves lives!

### **Sources taken from:**

- 1.) [www.drugabuse.gov](http://www.drugabuse.gov)
- 2.) Nation Drug Agency, Malaysia <http://www.adk.gov.my/buletin.htm>
- 3.) Picture Source, The Journal of Neuroscience, 21(23):9414-9418.2001
- 4.) Section 1.2, The Biology of Addiction, Preparation for Licensure: A Texas Pact Resource Guide:9-19.1995