

Caffeine, nicotine and analgesics

All of these substances are used by individuals every day, some more than others. But what effect can it have on our bodies when it comes to sport? Does the use of these substances help or hinder us when it comes to our physical exercises? Is it fair to use them to our advantage when competing?

Caffeine

Caffeine is a chemically defined substance known as an alkaloid which is typically found in plants. Plants used to make tea and coffee are the ones most people know to contain caffeine. Sometimes they are a hidden additive which you wouldn't expect to be used in a product, such as in coca cola and dark chocolate. The more we use caffeinated products, the more we start to rely on them. We can become addicted to it.

In some sports the use of caffeine is not illegal. It can be beneficial for keeping your energy levels up. Just by taking a caffeine enhanced drink the effect it gives you can increase your concentration and reaction speeds just enough to keep you focused on the task you are about to do, be it running or having a Judo fight. The caffeine increases the circulation of fatty acids in our bloodstream which then burns as a fuel. This triggers our body to release adrenaline which increases our heart rate and reduces fatigue making us all pumped up and eager to perform. It is also a diuretic which reduces the body's ability to retain fluids, although this can be reduced with another drink of a caffeinated drink. Many athletes use sports drinks or flavoured caffeinated soda just to keep them topped up in the stimulant. Over use of these products can make our bodies become tolerant to them and more caffeine will be needed to get the desired effect. To overcome this they abstain from drinking or eating products which contain caffeine for a period of time before a competition, to allow the body to get that desired effect once again. The down side of excessive use of caffeine is that it can cause you to suffer palpitations, nervousness, tremors, insomnia, gastric irritation and an acute rise in blood pressure. All these problems can easily be reversed by abstaining from caffeine based products, but this might be at a loss of performance.

Nicotine

Nicotine is also an alkaloid and has similar benefits to caffeine. Nicotine can be more addictive than caffeine and harder to stop using it. It is more commonly used in the form of a cigarette; however there are patches and sprays that also contain it. Using nicotine in any form stimulates the brain to produce Serotonin creating a calming effect for the user. This can help with any anxieties that the person may be having before participating in their chosen sport. The brain also produces Dopamine which helps suppress the appetite, an aid to keeping weight off. The effect from the nicotine does not last as long as with using caffeine, so the person will find they have to keep

topping up on nicotine to sustain the desired effect, which could be an explanation to why it can be so addictive.

The down side to nicotine when used in cigarette form is that a tobacco smell can be left on your clothes and breathe. This can be off putting to your opponents. The harm it does to your body can also have a lasting effect. Long term use of nicotine means that chemicals narrow your arteries carrying blood through to your lungs and body causing shortness of breath. This in turn can lead to the threat of having a stroke or heart attack as the body struggles to cope. The sooner that nicotine can be stopped, the quicker the body can reverse the damage done. This can take many years for a heavy user.

Analgesics

Analgesics, or painkillers as they are better known, come in two types. These are narcotic and non narcotics. Narcotics tend to be very strong and can be highly addictive. Types of narcotics are Morphine, Codeine and anything containing an opiate which is derived from the opium poppy. These types of medicines are used for chronic pain relief and have to be carefully administered. They act on the brain to reduce the amount of pain felt and help reduce the person's anxiety over their injury. These are usually issued on the advice of a doctor and often taken them for long periods of time.

Non narcotics are the type of medicines that can be bought from the local chemist such as Aspirin, Paracetamol and Ibuprofen. These are not as addictive but care should be taken when using them, as misuse can cause damage to the body. They are usually used for minor ailments from a sore throat to inflammation of a limb, and usually taken for a short period of time. Sometimes the use of painkillers is a necessity just to be able to compete in your chosen sport. When this happens the person has to be careful not to over do things as the painkiller could mask any pain they are feeling, leading to further injury to themselves. When we over do exercise it has an impact on our body which can cause swelling in the area affected. The use of an anti-inflammatory (Ibuprofen) can help ease the symptoms along with plenty of rest.

Over use of any type of painkiller will have a damaging effect on the body, such as stomach irritation leading to stomach ulcers, and even the possibility of death due to misuse. When it gets to this point maybe its time to give up that sport and replace it with something less damaging to your body, perhaps yoga!

By Sam Harrington (2014)