

London Evening Standard

In 2008 Dr Peter Venn wrote an article in the London Evening Standard on recreational use of Modafinil as a brain stimulant. You can read the article below:

If you're commuting and reading this on the train or the bus – have a look around you. How many of your fellow travellers are still awake? The dozers have probably 'just had a long day', but there is a remote chance that one or two could suffer from narcolepsy – a rare and mysterious medical condition in which the chemical switch that turns sleep on and off is not working properly. Narcoleptics fall asleep in the daytime, but also wake frequently at night.

Enter Modafinil (trade name Provigil), a brain stimulant drug and the accepted first line medical treatment for this disabling condition. It has been around for about 10 years now.

And you may be interested to learn that modafinil can keep **you** awake too, even if you don't suffer from narcolepsy. And what's more, you can buy it quite easily off the internet.

So is the guy tapping madly on his laptop opposite you really that motivated – or is he secretly popping modafinil in order to stay awake and impress his boss?

Surprise, surprise! In several countries the military, including the UK, France and the USA, have expressed an interest in modafinil to keep their personnel alert long after they would normally have required sleep. There are reports that modafinil has been used in Iraq where soldiers have performed adequately for over 40 hours between rest periods.

But it is not all plain sailing with brain stimulants in combat. In 2002, a disaster occurred where American pilots accidentally bombed a Canadian unit in Southern Afghanistan after supposedly taking amphetamines (speed) to enhance their performance.

Before modafinil, amphetamines were the most commonly used brain stimulants both inside and outside medical practice. But their attendant problems of addiction opened them up to the underworld market. Modafinil is different and it has provoked quite a stir recently in the wild world of brain stimulation. Initially the science community was impressed, then the military was impressed, and now it is fast becoming a recreational drug. Even now, no-one knows precisely how modafinil works, not even the company (Cephalon) that developed it. It probably keeps people awake by acting on deep seated parts of the brain with wonderful names such as the hypothalamus and the ventro-lateral pre-optic nucleus, and best of all it doesn't cause addiction.

Now that the drug has hit the recreational scene, people in high pressure jobs are using it to stay awake for longer to enhance their productivity. It doesn't give you a high, but it does appear to enhance performance. And like ephedrine and amphetamines, inevitably modafinil is banned for use in athletics by the Olympic Committee.

So, what if you just want impress the boss with your enormous ability to work twice as hard as your peer group at the office? Modafinil does seem to enable this to happen. Side effects are few – a mild headache or a feeling of slight agitation, and quite unlike the high blood pressure, anxiety and possible psychotic delusions that other brain stimulants such as amphetamines are known to produce. And, of course, it is not illegal.

A quick search of the internet soon reveals just how easy it is to purchase modafinil legally. Google ‘modafinil’ and ‘buy’ and you will find over 10,000 websites in the UK alone.

But just hang on a moment.

However much we know about the science of sleep, we still don’t know what it is actually for. Most scientists agree that sleep is restorative and necessary for memory consolidation, but there is a very wide variation in sleep requirements between different mammals. For instance, a tiny creature called the ‘little brown rat’ sleeps for 22 hours per day, whilst the giraffe is awake for about 22 hours per day (New Scientist March 2008). Margaret Thatcher famously mused that she slept for only for 4 hours per night when she was prime minister and running the country, whilst your teenage son and daughter will certainly insist that they need rather more than 12 hours sleep per day whilst achieving rather less! The record for continued natural wakefulness was broken last year by a gentleman called Tony Wright from Cornwall after 265 hours.

Sleep guru Jerry Siegel from the University of California has recently postulated that sleep has evolved purely to conserve energy and keep us out of trouble with predators. This suggests that humans may not need sleep or that brain stimulant drugs like modafinil could make sleep redundant altogether.

The fact remains that we simply don’t know enough about the possible detrimental long term effects of inadequate sleep. For example, recent research by several leading academic teams has specifically linked sleep restriction to the risk of developing adult type II diabetes and all of its medical risks. And that is just the start of it.

So would you get into a car driven by someone who has been awake for 30 hours after taking modafinil?

Interestingly, most patients with insomnia do not nap voluntarily during the daytime to catch up with sleep, but they do complain bitterly to their doctors about the distress of being awake all night. And who can blame them?

After all, who wants to go through life without the pleasure of getting into a nice warm bed – and going fast to sleep?