

*Published in the Australian, this article was written by Matthew Syed for The Times (UK newspaper) and appeared March 10, 2016, following the revelation that tennis star Maria Sharapova had used a banned substance.*

## Why was meldonium banned?

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THE reaction to the Maria Sharapova revelations is surprising. As far as I am aware, nobody has demonstrated that the tennis champion broke World Anti-Doping Agency rules at any time before December. Until that point, meldonium was not on the prohibited list.

So why the claim that she was cheating all those years?

I also suspect that she was telling the truth when she claimed to have been unaware it had been added to the banned list in January. Why would she have continued taking a substance that is easily detected when she knew it was banned? Why take the risk?

Certainly, she should have known that the substance had been added to the list and her entourage should have warned her, particularly given that they received five missives about it, but I struggle to believe they actually did know.

But, regardless of all this, let us come to a more profound question.

### **First, let me say that Sharapova must now be banned.**

By taking a drug that had been prohibited, she was in breach of the WADA code. The strict liability rule, which states that athletes are responsible for what they put in their bodies, ensures her guilt.

### **It is also worth pointing out that she may have been lying through her teeth when claiming that she took the drug for medical reasons.**

But the deeper question is: why was meldonium put on the list in the first place? Let us assume that the drug is safe in the quantities in which Sharapova was taking it. One doctor I talked to said that it could be used without any dangerous side effects. So why did WADA need to get involved? Why not allow it to be used by those without any medical condition and who simply want a boost to performance?

Drug authorities struggle to answer questions such as this. They are considered awkward, almost tactless, and often lead to embarrassed silences. When Dick Pound, the former head of WADA, was pressed on the issue a few years ago, he blustered: 'Drugs are completely antithetical to what sport should have been about. It's essentially a humanistic endeavour to see how far you can get on your own talent.'<sup>7</sup>

But what does this mean? On the surface, the statement seems to fly in the face of almost everything that modern sport is about. If you study any top team, in almost any nation, you will see a comprehensive attempt to transform through science, teamwork and technology the 'natural' capacities of athletes. Everyone is looking for an edge.

Take something as innocuous as caffeine. Before his 10,000m victory at the London 2012 Olympic Games, British athlete Mo Farah drank two shots of espresso 20 minutes before the race.

As I make my way out to the stadium track, I feel this massive caffeine high come on, he later wrote. My hands, my legs, everything is shaking. Then I stick my head out through the tunnel and the crowd goes mental.

I'm already pumped up to my eyeballs from the caffeine. At that moment, I am more pumped than ever before in my life. My eyes feel as though they're about to burst out of their sockets. Until 2004, caffeine taken in large quantities was prohibited by WADA. Like all stimulants it boosts alertness but for distance athletes it has an extra advantage: it conserves glycogen. According to an academic study in 2008, caffeine ingestion significantly improved 5km running performance in well-trained and recreational runners. The improvement was measured at more than 1 per cent. Would Pound describe this enhancement as natural? Or antithetical to sport?

Cyclist in a tent!

And what of British cyclist Chris Froome, who has a hypoxic tent in his Monaco apartment, just like hundreds of other clean athletes around the world. His bed is placed in this chamber, which artificially sucks oxygen out of the air (from a normal 20.9 per cent level to as low as 12 per cent), to force his body to produce more red blood cells, which are then available to transport oxygen to his muscles during competition. Is this natural? If so, why are alternative techniques of boosting red blood cells, such as erythropoietin, also known as EPO, or blood transfusion, considered heinous?

It is worth reiterating that both techniques are perfectly safe when properly monitored (just as they are dangerous when not). The only difference, other than one being banned and the other eulogised as a marginal gain, is that the former uses a tent while the other uses a syringe. But quite why a delivery mechanism is sufficient to create such a formidable moral gulf has never been fully explained.

These ruminations are merely the start, however. Extravagant claims are made for new medical techniques, but I suspect gene transfer therapy, where beneficial genes are delivered directly into the human genome, will become commonplace within a matter of years. But such techniques also can boost performance. If you look at bodybuilding websites, you will see reference to things such as mechano-growth factor and insulin-like growth factor, genetic transfer techniques that boost muscle development and recovery. As early as 2006 it came to light that Repoxygen, a trade name for a gene therapy that releases EPO in response to low oxygen concentration, had been mentioned in an email exchange between a German athlete and his coach.

WADA bans all such techniques, presumably (and on the surface understandably) as they are deemed unnatural. But this distinction increasingly will be difficult to sustain if there is a medical reason for a gene transfer, which in turn has a performance-enhancing effect, or if the genetic changes infiltrate the germ line. In these circumstances, a child would be born (naturally) with a genetic make-up that had been altered through an intervention on his parents.

Natural or artificial?

I don't want to suggest these questions are easy; I am merely perplexed as to why we bumble along pretending they don't exist. People talk about the unfairness of doping, presumably because less wealthy athletes can't afford sophisticated drugs, yet rarely stop to think about top cycling teams having more aerodynamic bikes and top Paralympians having space-aged wheelchairs.

These examples show only partially the way in which the pattern of success is, and has always been, shaped by resources.

Equally, the argument that drugs in sport would be bad for children misses the point too. If they are harmful for kids, that is an argument for preventing them from being taken by

children without stopping adults from taking drugs in safe quantities under conditions of informed consent. To my mind, the argument that kids could be corrupted is another red herring to distract us from the more difficult question of where, for adults, the doping authorities should draw the line.

These questions will become trickier, not less so. At the moment, WADA can hold the line that the substances on the list are heinous and those that are not are virtuous because there is little discussion of just how arbitrary this line is. That will not be the case as the ethical questions become more pressing.

I am not advocating a drugs free-for-all; merely a debate. We may conclude that the list is, on reflection, too lax. What is certain is that, as technology keeps challenging our moral intuitions, we won't be able to duck it for long.

**As for Sharapova, let me reiterate that she deserves a ban. When you break the rules, you unfairly disadvantage athletes who obey them. She competed in the Australian Open using a substance that honest athletes were not allowed to use and was caught in the act.**

There are also many other outstanding questions, such as how she was able to take a drug for so long that was unlicensed in the US. But the question of what the rules should be, and where the line should be drawn, remains as open as it has ever been. It is high time we confronted it.

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