

Meldonium and the WADA Prohibited List

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Recent developments in sports anti-doping serve to highlight the importance of athletes, sports officials and medical practitioners maintaining a high level of vigilance regarding the use of prescription drugs by athletes. On 7 March 2016, professional tennis player Maria Sharapova announced that she had incurred a positive doping test at the Australian Open Tennis Championships in January, as a result of consuming the banned drug meldonium.

Meldonium (also known by the brand name Mildronate) is produced in Latvia and is available over the counter. It is predominantly used in Latvia, Russia and Eastern Europe. The drug is not approved for use in Australia. Meldonium is reported to have cardioprotective and anti-ischaemic effects. In the vast majority of circumstances, it would be prescribed for elderly individuals with ischaemic conditions.

During 2015 meldonium was on the monitoring program of the World Anti-Doping Agency (WADA).¹ Meldonium was added to the WADA Prohibited List on 1 January 2016 because of evidence of its use by athletes with the intention of enhancing performance.² It is thought to improve athletic performance by increasing the capacity for oxygen delivery to peripheral tissues during exercise.³

There has been growing evidence of the abuse of meldonium by athletes for performance-enhancing purposes. At the Baku 2015 European Games, only 23 of the 662 (3.5%) athletes tested between 8 and 28 June 2015 declared the personal use of

meldonium. This included 13 competition winners. However, 66 (8.7%) of the 762 athletes' urine samples analysed pre-competition and during the Games tested positive for meldonium.⁴

The Prohibited List is reviewed each year by WADA and any decisions to alter it are finalised in September. All relevant anti-doping organisations were informed before 1 October 2015 that meldonium had been added to the Prohibited List with the change coming into effect on 1 January 2016.

Medical practitioners dealing with athletes subject to doping control testing need to be aware of the Prohibited List. Where any doubt exists, medical practitioners can find useful information on the website of the Australian Sports Anti-Doping Authority (ASADA) www.asada.gov.au. In particular, the 'Check Your Substances' page (<https://checksubstances.asada.gov.au>) provides an easy reference for medical practitioners when there is doubt regarding the status of a particular drug. If any doubt persists and the medical problem is not urgent, the athlete should be urged to consult with their national sporting organisation. All national sporting organisations have appropriate contacts through which they can provide advice. If a medical practitioner, coach, athlete or parent has further questions that cannot be answered via the ASADA website, they can ring ASADA on 1300 027 232. ◀

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REFERENCES

1. Hughes D. The World Anti-Doping Code in sport: update for 2015. *Aust Prescr* 2015;38:167-70. <http://dx.doi.org/10.18773/austprescr.2015.059>
2. World Anti-Doping Agency. WADA statement regarding Maria Sharapova case. 2016 Mar 7. www.wada-ama.org/en/media/news/2016-03/wada-statement-regarding-maria-sharapova-case [cited 2016 Apr 1]
3. Dzintare M, Kalvins I. Mildronate increases aerobic capabilities of athletes through carnitine-lowering effect. In: 5th Baltic Sport Science Conference: Current issues and new ideas in sports science; 2012 Apr 18-19; Kaunas, Lithuania. Lithuania: Lithuanian Academy of Physical Education; 2012.
4. Stuart M, Schneider C, Steinbach K. Meldonium use by athletes at the Baku 2015 European Games. Adding data to Ms Maria Sharapova's failed drug test case. *BMJ Blogs*. 2016 Mar 8. <http://blogs.bmj.com/bjasm/2016/03/08/meldonium-use-by-athletes-at-the-baku-2015-european-games-adding-data-to-ms-maria-sharapovas-failed-drug-test-case/> [cited 2016 Apr 1]