

**Bond University**  
**Research Repository**



## **Medication and dietary supplement use in masters athletes; prevalence and safety**

Chalmers, Joshua; Halar, Fiona; O'Connor, Helen; Prvan, Tania; Climstein, Michael; Stuart-Smith, Wendy; Reaburn, Peter R J; Gifford, Janelle

Published: 01/10/2019

*Document Version:*  
Peer reviewed version

[Link to publication in Bond University research repository.](#)

### *Recommended citation(APA):*

Chalmers, J., Halar, F., O'Connor, H., Prvan, T., Climstein, M., Stuart-Smith, W., Reaburn, P. R. J., & Gifford, J. (2019). *Medication and dietary supplement use in masters athletes; prevalence and safety*. Sports Medicine New Zealand Conference 2019, Dunedin, New Zealand.

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

## Medication and dietary supplement use in masters athletes; prevalence and safety

Chalmers, J<sup>1</sup>, Halar, F<sup>2</sup>, O'Connor, H<sup>2,3</sup>, Prvan, T<sup>4</sup>, Climstein, M<sup>5</sup>, Stuart-Smith, W<sup>1,3</sup>, Reaburn, P<sup>6</sup>, Gifford, J<sup>2,3</sup>.

<sup>1</sup>Faculty of Science, University of Sydney, <sup>2</sup>Faculty of Health Sciences, University of Sydney, <sup>3</sup>Charles Perkins Centre, University of Sydney, <sup>4</sup>Department of Mathematics and Statistics, Macquarie University, <sup>5</sup>School of Health and Human Sciences, Southern Cross University, <sup>6</sup>Faculty of Health Sciences and Medicine, Bond University

**Introduction:** The presence of chronic conditions in masters athletes (MA) may increase the use of medications and over-the-counter preparations for treatment, exposing MA to risks including doping violations, drug-to-supplement interactions, and drug-to-drug interactions.

**Aim:** To describe the prevalence of medication and supplement use for treatment of chronic conditions and use of dietary supplements and sports foods (DSSF) in competitive MA. Prohibitions of medications used and potential for interactions between DSSF and other ingested therapies were also examined.

**Methods:** Participants registered at the Australian Masters Games (2017) and the Pan Pacific Masters Games (2018) were invited to complete an electronic questionnaire collecting demographic information, medical conditions and their treatment, DSSF from a list of 31 based on the Australian Institute of Sports supplement framework<sup>1</sup>, and methods to check DSSF safety. Text entries for medication and supplements (including herbal therapies) used for treatment of conditions were doubly extracted. Medications and prohibitions were categorised according to international standards<sup>2,3</sup>. Single ingredient DSSF or DSSF able to be uniquely identified by brand name (n=16) were checked for interactions with other therapies using an interaction database<sup>4</sup>. Association between medication use and use of DSSF was determined using Chi-square Test of Independence.

**Results:** Of 19,304 MA, 817 (53.7±14.0y, 60.8% female) completed targeted questions. Approximately one quarter of participants (25.3%) used medications to treat a chronic health condition; medications used to treat asthma and heart/circulatory conditions (26.6% and 23.4% of usages respectively) were most common. Only a small proportion (7.1%) of participants used a supplement to treat a medical condition and these were mostly used for arthritis or bone health (64.1%) and obesity (22.8%). Almost 40% of those that used medications to treat a condition used one that had prohibitions or restrictions for use in competition for all or some sports, requiring therapeutic use exemptions for medical conditions. A total of 380 participants specified using between 1 and 16 DSSF, with sports drinks (43.9%) and multivitamin and minerals (38.7%) being the most common. Including treatments and DSSF, 46.3% of participants used at least two therapies and of these, 2.1% used a combination with a known interaction. Medication use was associated with using at least one DSSF (p = 0.008). A substantial proportion of the respondents (68.6%) used unreliable methods for checking DSSF safety.

**Conclusion:** The data indicate that medication and DSSF use is common among MA and that many MA may use these in combinations. Some MA may be exposed to risks such as doping violations and adverse interactions. Health professionals should be aware of these risks to advise MA appropriately. MA may benefit from additional education or resources to support them in checking medicines and DSSF for safety, legality and efficacy.

### References

1. Sport Australia. AIS Sport Supplement Program. <http://www.ausport.gov.au/ais/nutrition/supplements> [Accessed 2 July 2017].
2. CCES, UKAD, USADA, Antidoping Switzerland, JADA, ASADA. The Global Drug Reference Online. <http://www.globaldro.com> [Accessed 11 July 2019].
3. WADA. The World Anti-Doping Code International Standard Prohibited List January 2019. Retrieved from <https://www.wada-ama.org/en/content/what-is-prohibited> [Accessed 11 July 2019].
4. Therapeutic Research Center. Natural Medicines. <https://naturalmedicines.therapeuticresearch.com/>. [Accessed 10 May 2019].