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IN DOPING ANALYSIS  
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## Nutritional Supplements – The South African Scenario

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### Abstract

**Introduction.** Inadvertent doping through the use of nutritional supplements is a potentially important cause for the increase in positive drug tests involving high profile Olympic athletes. Results from an IOC study on nutritional supplements (13 countries excluding South Africa) showed that 94 (14.8%) samples out of 634 samples contained prohormones not listed on the label.<sup>2</sup> Nutritional supplement use is also very popular in South Africa and the turnover of the industry is approximately R1.5 billion a year (Health Products Association of South Africa Survey 1998 – 2000).

**Objective.** The aim of this study was to screen over-the-counter nutritional supplements for the presence of steroid or stimulant compounds banned by the International Olympic Committee (IOC) and the World Anti-Doping Agency (WADA).

**Method.** Thirty different nutritional supplements from 14 different manufacturers were bought at shops in Bloemfontein, South Africa and analysed for testosterone and nandrolone prohormones, various ephedrines and caffeine.

**Results.** Eighteen (60%) of the 30 supplements contained no prohibited substances. Of the 12 (40%) positive supplements, eight (66.7%) contained prohormones and four (33.3%) contained stimulants. Six supplements contained prohormones, which were listed on the labels, while 2 contained prohormones not listed on the labels. The stimulants were listed on the labels as Ma Huang, Guarana and Kola extracts and all contained a mixture of ephedrines and caffeine.

**Conclusion.** The results showed that approximately 7% of supplements tested may be mislabelled or contaminated with banned substances and that inadvertent doping through nutritional supplement use is a reality for athletes. The sporting community should therefore be aware that supplements might contain anabolic androgenic steroids and stimulants that are not declared on the labels.

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