ScienceDirect

University of Oregon does not subscribe to this content on ScienceDirect.

Nutrition and Enhanced Sports Performance (Second Edition)
Muscle Building, Endurance, and Strength
Date: 2019
Show more

Chapter Get rights and content ↗

Chapter 3 - Performance-Enhancing Drugs and Sports Supplements for Resistance Training

Lucas Guimarães-Ferreira [1], Jason M. Cholewa [2], Wagner Silva Dantas [3], Igor Murai [3], Michael J. Duncan [4], Nelo Eidy Zanchi [5] Show more

Cite Add to Mendeley Share 10.1016/B978-0-12-813922-6.00003-5 ↗

Access options

Article preview Recommended articles Cited by (1) Metrics

Abstract

In general, nutritional sports ergogenics are designed to enhance energy production and/or improve body composition, promoting muscle growth and decreasing body fat. Many of the nutritional supplements and pharmacological substances have been used during resistance training without knowledge about the effects on human metabolism caused by their chronic administration. Before the usage or prescription of any ergogenic aid, it is important to consider some questions about that substance: Is it effective? Is it safe? Is it legal and ethical? In this chapter we will discuss the most widely used drugs and supplements among individuals engaged in resistance training—testosterone, growth hormone and insulin growth factor-1, creatine, beta-hydroxy beta-methylbutyrate and caffeine—focusing on their effects on strength and body composition, the safety of their usage, and the mechanisms of action.

Keywords

Beta-hydroxy beta-methylbutyrate; Caffeine; Creatine; Growth factor; Insulin growth factor-1; Nutritional supplements; Resistance training; Testosterone

Previous chapter in this book Next chapter in this book

Access options

FindText

Access through another organization

Need help with access? ↗

References (132)

View full text

Article preview

Abstract

References (132)

Recommended articles

Based on reading popularity

Research article

COVID-19 fatalities, latitude, sunlight, and vitamin D

Paul B. Whittemore

American Journal of Infection Control • Volume 48, Issue 9 • 2020 • Pages 1042-1044

Chapter

Chapter 48 - The Use and Misuse of Testosterone in Sport: The Challenges and Opportunities in Doping Control

Jake Shelley, ..., Andrea Petróczi

Nutrition and Enhanced Sports Performance • 2019 • Pages 571-580

Chapter

Chapter 41 - Assessment of Vitamin Intake From Conventional and Supplement Diets in Selected High-Qualified Sport Groups Before and After Conducting Nutritional Education

Estera Nowacka-Polaczyk, ..., Jerzy Zawistowski

Nutrition and Enhanced Sports Performance • 2019 • Pages 483-496

Chapter

Chapter 16 - An Overview of Doping in Sports

Fabian Sanchis-Gomar, ..., Mari Carmen Gómez-Cabrera

Nutrition and Enhanced Sports Performance • 2019 • Pages 189-202

Chapter

Chapter 67 - Commentary

Debasis Bagchi, ..., Chandan K. Sen

Nutrition and Enhanced Sports Performance • 2019 • Pages 769-770

Chapter

Chapter 20 - Sports Nutrition in Japan: in the Dawn of 2020 Tokyo Games

Seiji Aoyagi, Hideko Ikeda

Nutrition and Enhanced Sports Performance • 2019 • Pages 239-243

Cited by (1)

Research article

Label-free assaying of testosterone and growth hormones in blood using surface-enhanced Raman spectroscopy

Ondieki A.M., ..., Chege B.M.

Vibrational Spectroscopy • Volume 129 • 2023 • Article 103605

> *Citation Excerpt:*
>
> …Testosterone (TE) and growth hormone (GH) are potent anabolic hormones that play crucial roles in the regulation of many physiological processes in humans, including muscle growth, development and power, bone density, and sexual function [1,2]. In addition, these hormones are of interest in the sports world, where they are often abused singly or simultaneously as performance-enhancing drugs [3,4], often without knowledge of their prolonged side effects such as hypertension and liver failure [5]. This is due to the drive to win competitions and improve athletes' visual appearance [6].…

Show abstract

Metrics

Citations

Citation Indexes	1

Captures

Mendeley Readers 53

Social Media

Shares, Likes & Comments 12



View details ↗

Copyright © 2019 Elsevier Inc. All rights reserved.



All content on this site: Copyright © 2026 Elsevier B.V., its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the relevant licensing terms apply.

