

### **Part 1: Nutritional Ergogenics for Athletic Performance**

Go online and search for a *nutritional* supplement (not a drug) that is targeted toward athletes.

Choose any supplement that appears interesting and promotes some physiological benefit to athletic performance. Critique the advertisement and the product using the guidelines below.

#### *Nutritional Supplement Critique Guidelines:*

- List the supplement's name, category of supplement (e.g., anabolics, prohormones and hormone releasers, fat reducers, anticatabolics, specific vitamins or minerals), and price per serving.

**MuscleTech Platinum 100% Creatine** amine, \$0.13 per serving

- It claims to support lean muscle and promote strength and endurance
- Critique the claimed actions:
  - This supplement does not claim very much beyond what is written above. It also seems very well researched and well tested. Everything that I have found about using creatine as a supplement supports similar claims
- Is the advertisement based on testimonials only?
  - No, this website includes a small infographic about how in a clinical trial most subjects gained more muscle taking this creatine supplement than those that didn't.
- Determine safety issues of the supplement and/or ingredients contained in the supplement. Is the supplement or its ingredients banned by any sports or athletic organizations?

**Answer:** I could not find a single organization that bans the use of creatine for its athletes. There are several products that contain creatine that are banned, but all of those products have other supplement ingredients in them besides creatine.

- Determine if you would recommend this supplement to an athlete, and describe why or why not. Use Table 10.6 in the textbook, “The Internet Cafe” on page 387, or any other evidence based website. Commercial sites (.com) are not acceptable.

**Answer:** I would definitely recommend creatine for an athlete looking to build lean muscle. I could not find a reputable source that says the use of pure creatine for an athlete is not safe and effective in the recommended dosage.

Product: <https://www.bodybuilding.com/store/muscletech/essential-series-platinum-100-creatine.html?skuId=MT2320202>

### References

Dunford, Marie, and J. Andrew Doyle. *Nutrition for Sport and Exercise*. 3rd ed. Stamford, CT: Cengage Learning, 2015. Print.

### **Part 2: You Are the Nutrition Coach**

Please read each case study listed below, and answer the associated questions.

1. Louise is a 42-year-old woman who enjoys Pilates, yoga, tennis, and strength training with her personal trainer. For several years, she has been taking the following supplements:

- Daily multivitamin/mineral
- 500 mg potassium
- B-complex vitamin
- 50 µg chromium

- 400 mg magnesium
- 500 mg calcium, twice per day
- 200 IU vitamin D, twice per day
- 25 mg zinc

These supplements have been recommended to her from a variety of sources, including friends, family, past personal trainers, and the woman from whom she purchases her supplements. Louise believes her diet is balanced and varied and her energy requirements are met. Now she wants to know if spending the money on all these supplements is needed considering her age and level of activity.

*Questions:* After reading the chapters on “Vitamins,” “Minerals,” and “Diet Planning: Foods First, Supplements Second,” evaluate the profile of supplements Louise is currently taking on a daily basis. Which supplements would you recommend that she continue to take and which products should she discontinue using?

*Answers:*

- **Multivitamin/mineral: Continue or discontinue? Why?** Continue, even if Louise is eating a balanced diet, there is still a possibility of deficiency and a multivitamin could fill in any of those potential gaps.
- **Potassium: Continue or discontinue? Why?** Discontinue as long as she is eating her recommended amounts of fruits and vegetables, potassium is best absorbed through
- **B-complex vitamin: Continue or discontinue? Why?**
- **Chromium: Continue or discontinue? Why?** Continue if desired, chromium helps athletes to increase muscle mass and reduce body fat, as long as the dosage does not exceed 50 mg it is safe and can be effective

- **Magnesium: Continue or discontinue? Why?**
- **Calcium: Continue or discontinue? Why?** Continue, even with a balanced diet, most adults are below the adequate intake of calcium
- **Vitamin D: Continue or discontinue? Why?**
- **Zinc: Continue or discontinue? Why?**
- **Other comments:**

2. Bob is 37 years old, and has just joined the fire department. Since his new job requires him to be strong and powerful, he has started a new strength training routine. He has heard from other firefighters, as well as guys at the gym, that he should be taking a protein and/or creatine supplements to maximize his results from working out so hard in the weight room. He has researched some products online that contain whey, casein, soy, glutamine, and leucine. He makes an appointment with you to discuss which product will be best in helping him to recover from workouts and build muscle mass.

*Questions:* What are your recommendations for Bob? Provide Bob with several reputable online sources (commercial sites and sites selling protein powders and creatine are not acceptable) that may help him to research supplements in the future.

***Answer for Recommendations:*** I would recommend that Bob find a whey protein that has very few other ingredients.

***Reputable Sources:*** Nutrition.gov has a variety of helpful, reputable articles

**Part 3: After watching the PBS video “Doping for Gold,”** answer the following questions:

- a. What were some of the “freedoms” experienced by the East German athletes that were not available to their fellow citizens?

Some of the freedoms that were experienced by the East German athletes that were not available to other citizens varied greatly. Some of them were as extravagant as being able to travel to other communist countries and some were as simple as being able to have access to fruit like bananas and oranges.

- b. What was being tested on Olympic shotput star Margitta Gummel?

Margitta Gummel was testing OT unknowingly. OT was short for Oral Turrinabal, an anabolic steroid.

- c. What was the term used in the East German sports program in place of “blood doping”?

The East German sports program used the word supporting instead of doping.

- d. What was the basis for how coaches were paid in the East German sports program?

Coaches were paid based on how well their athletes performed.

- e. Why were the young female athletes put on birth control pills?

The young female athletes were put on birth control pills because there were studies staying that steroids would cause extreme damage to babies. Giving the athletes birth control pills stopped the sports programs from worrying about unplanned pregnancy during training.

f. What are some of the side effects of anabolic steroids?

Hair growth, deepening of the voice, and quicker break down of the body are all side effects of anabolic steroids in women.

g. How did the Germans ensure that their athletes had "clean" tests before competition?

The Germans made sure that their athletes would have negative drug tests before competition by stopping their steroids weeks before their training. When that failed, they started giving pre-competition screenings at home and athletes who had failed were not allowed to go compete.

h. What does the term androgenic mean?

Androgenic is anything that promotes the growth of male characteristics in females.

i. How many athletes were "doped" in the 20 years of the East German sports program?

10,000 athletes were doped in the 20 years of the East German sports program.