

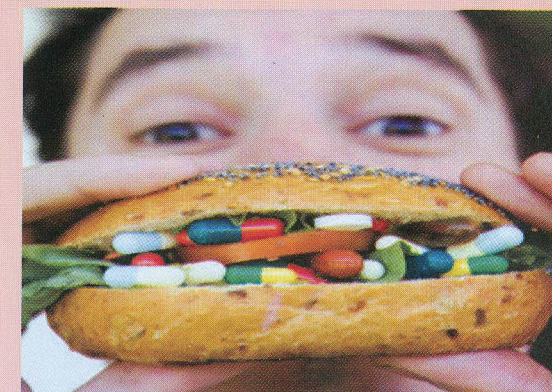


NATIONAL DOPE TESTING LABORATORY
Ministry of Skill Development Entrepreneurship
Youth Affairs & Sports Govt. of India
(A WADA accredited lab)
www.ndtlindia.com



Education Series on Doping Control-8

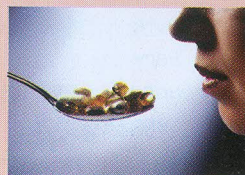
Nutritional supplements



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Dietary Supplements may harm health?

- By providing false sense of security.
- By taking excessive dosages at toxic levels.
- By using supplements as alternative medicine, and not seek proper medical advice.
- By taking supplements spiked with prohibited substances.



Choose Food Instead of Supplements

Food	Supplements
Fun	Boring
Offers variety	Lacks variety
Not expensive	Can be very expensive
Contains other healthy substances	Limited health benefits
Safe	May be harmful to health

Contamination facts

2001 IOC international study;
634 non-hormonal supplements,
15% contained undeclared
steroids

2007 study of 58 USA
supplements

25% contaminated with prohibited steroids

11% contaminated with prohibited stimulants

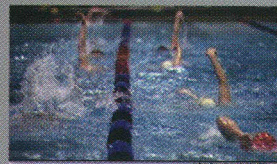
2008 UK study of 152 supplements

10% contaminated with steroids/stim



The risk may be small, but it is very REAL.

The athlete alone is responsible, but everyone is affected.



Education and critical thinking are MANDATORY to avoid losses in the areas of success, reputation and potential earnings.

Responsibility:

Professionals are not responsible for an athlete's intake of a prohibited substance.

The decision is yours.

The responsibility is yours.

- Inadvertent doping through the use of nutritional supplements is important cause for increase in positive drug test

METHYLHEXANEAMINE



Eat Variety of Nutritious Foods

Positive doping cases with norandrosterone after application of contaminated nutritional supplements.

Researchers detect testosterone and various forms of androstenedione and 19-norandrostenedione/diol in 3 different commercial products:

Chrysin, Tribulus Terrestris and Guarana

Geyer, . MK Henze, U Mareck-Engelke, G Sigmund and W Schanzer. (2000).
Deutsche Zeitschrift fur Sportmedizin 51:378-382.



What is a Food Supplement?

- Dietary supplement is intended to supplement the diet.
- It may be a pill, liquid, powder, tablet, capsule, soft gel, and gel caps.
- Supplements are available without a prescription through a number of retail outlets, including grocery stores, drug stores.



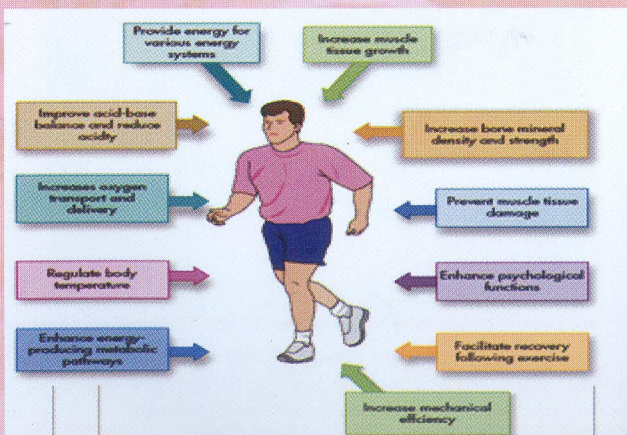
It may be vitamins, amino acids, minerals, herbs, antioxidants, enzyme and other botanicals .

Most often recommended by:

1. family members
2. friends / teammates
3. coaches / trainers
4. nutritionists / dietitians
5. physicians / pharmacists



Why taken?



Categories of nutritional ergogenic aids ...

- * Amino acids
- * Anti-oxidants
- * Creatine
- * Dietary aids
- * Herbs
- * Vitamins & minerals
- * Sports drinks
- * Proteins
- * Miscellaneous



Role of Dietary Supplements

- ❖ Muscle building
- ❖ Energy enhancement
- ❖ Increase in Endurance
- ❖ Weight loss
- ❖ Weight gain
- ❖ Recovery
- ❖ Joint health



FDA Food and Drug Administration

- Effective?
- Safe?
- Pure?
- Accurate dosing?

Role of Common Supplements

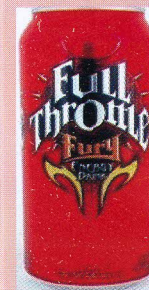
- Vitamins B: Essential for body to function properly. Found in rice, oatmeal, white cheese, avocados.
- Caffeine : Used by athletes to stay alert and improve endurance. Found in Tea and coffee.
- Creatine : Improves repeated bouts of high-intensity exercise, such as sprinting, weight lifting or power sports. Found in meat and fish.
- Ephedrine: Improves strength, endurance, reaction time, anaerobic capacity, or recovery time. Major Source is Ephedra vulgaris plant products.
- Glucosamine: Glucosamine has been used to treat osteoarthritis and helps to stimulate cartilage. It is used in form of its sulfate salt for supplementation.
- Glutamine: L- Plays crucial role in anti catabolism and anabolism. Found in high concentration in serum, cerebral spinal fluid and muscle tissues.



- Hydration and Sports Drinks: Adequate fluid intake for athletes essential to perform.
- Protein Supplement : Essential nutrient for everyone to function properly . Both athletes and sedentary individuals need to get adequate protein source like egg, milk, pulses.

Energy Drinks: A common supplement

- ❖ May Contain stimulants
- ❖ Increases Heart Rate & BP
- ❖ May have diuretic and cause Dehydration
- ❖ Can cause Positive test
- ❖ Alcohol may contribute to problems



Can an athlete test positive from using dietary/nutritional supplements?

The use of dietary supplements by athletes is a concern because in many countries the manufacturing and labeling of supplements may not follow strict rules, which may lead to a supplement containing an undeclared substance that is prohibited under anti-doping regulations.

Will dietary supplements improve health?

Best nutritional advice:

- Obtain nutrients through a VARIETY of natural, wholesome foods. "Food First"
- Some people may benefit from dietary supplements
- elderly, women of childbearing age, special medical diseases/conditions

