



# Alcohol & Supplements and U16



# Alcohol

- linked to sport in the post-event or post training binge drinking
- 20% is absorbed into the bloodstream through the stomach and the remainder through the small intestine
- source of calories
- alcohol effects the recovery process



## Guidelines for sensible alcohol intake after sport

- avoid alcohol for 24-36 hours after sport or exercise
- Re hydrate and refuel as first priority after intense exercise
- once fluid and CHO needs are met then alcohol may be consumed in moderation



# Ergogenic Aids

- The term ergogenic is derived from the Greek words ergon (work) and gennan (to produce).
- Athletes have always used sports ergogenics in an attempt to improve athletic performance beyond what would be possible through natural ability and training alone.
- The purpose of most sports ergogenics is to improve performance, "the magic bullet".



# Classification of ergogenic aids

- Nutritional aids
- Pharmacological aids
- Physiological aids
- Psychological aids
- Mechanical or biomechanical aids.

Some sports ergogenics are actually training techniques e.g. imagery or transcendental meditation.



# What's What?

- Sifting through the products on offer can be an overwhelming task for athletes.
- It can be hard to pin point the ones which work, especially when the advertising claims sound so persuasive.
- Scientific research may be exaggerated or used selectively by manufacturers to sell a product.
- Testimonials from well know athletes are also a common way of marketing.



# Evaluating Claims

- When purchasing dietary supplements “buyer beware” applies.
- If it sounds too good to be true, it probably is not true.
- Dietary supplements encompass vitamins, minerals & herbs.
- Multivitamins may help some individuals.
- Less is known about herbs than vitamins & minerals.
- High doses of some dietary supplements may be harmful.
- “Natural” is not synonymous with “safe”



# Nutritional Sports Ergogenic Aid

Nutritional aids primarily serve to increase muscle tissue, muscle energy supplies and the rate of energy production in the muscle. Although most nutritional sports ergogenics are designed to increase physical power, some may also contribute to mental strength or mechanical edge.



# Pharmacological Sports Aids

These are drugs designed to function like hormones or neurotransmitter substances that are found naturally in the human body. Like some nutritional sports ergogenic aids, pharmacological aids may enhance physical power by affecting various metabolic processes associated with sports success. For example amphetamines may mimic the effects of epinephrine (adrenaline), a hormone secreted naturally during exercise that enhances physiological processes involved in energy production.



# Pharmacological Sports Aids

Pharmacological aids have raised the most concern among athletic governing bodies. Doping, or the use of drugs by athletes in an attempt to improve performance, has persisted for nearly a century. Although some drugs may be effective sports ergogenic aids, their use may also significantly increase health risks.

The medical committee of the IOC notes that doping violates the ethics of both sport and medical science and is prohibited.



# Physiological Sports Ergogenic Aids



These are substances or techniques designed specifically augment natural physiological processes that generate physical power. Examples include blood doping, erythropoietin and oxygen inhalation. They are not drugs per se. In a strict sense, some are regarded as drugs because they are prescribed substances.



# Physiological Sports Ergogenic Aids

Other physiological sports ergogenics may be related to nutritional sports ergogenic aids. Carnitine and creatine are found in the food we eat, but they are non essential nutrients because they are formed in the body from other nutrients. In general, these non essential nutrients are intimately involved in specific physiological processes important to sports performance.

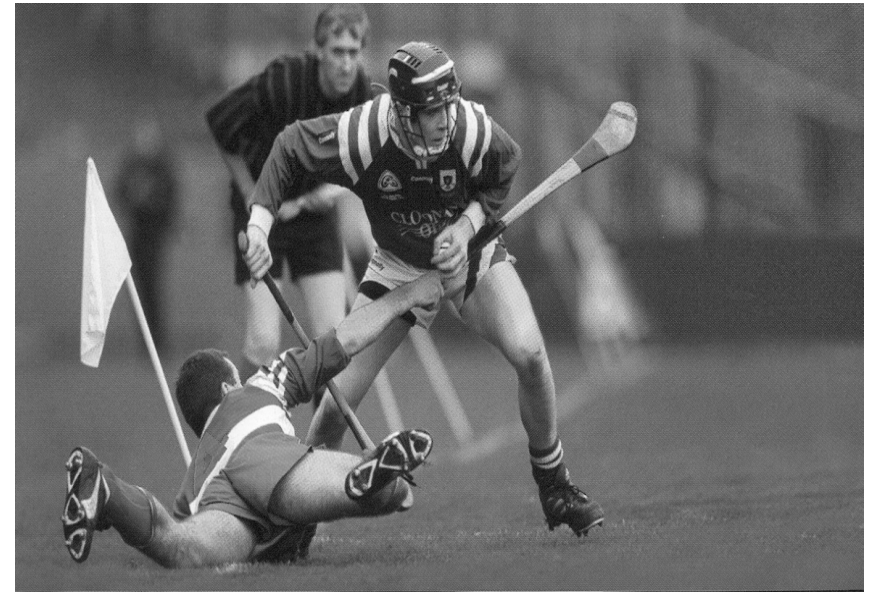
# Supplement Practices

- Most studies reporting supplementation practices fail to report the type of supplements used, amounts taken and rational for use.
- Concern has been expressed about the significant amounts of athletes who report taking up to 15 supplement preparations daily.
- Little information as to why athletes choose particular supplements



# Supplement Practices

- To compensate for a less than adequate diet or lifestyle.
- To meet unusual nutrient demands induced by heavy exercise
- To produce a direct (ergogenic) effect on performance.





# What is the evidence?

- Nutritional ergogenic aids with clear scientific support
  - Creatine
  - Caffeine
  - Bicarbonate
  - Sports drinks
  - Meal replacement drinks



# What is the evidence?

- Nutritional ergogenic aids with mixed scientific support
  - Antioxidant supplements
  - Protein and amino acids
  - Branched chain amino acids
  - Arginine, ornithine and lysine
  - Glutamine
  - Glycerol



# What is the evidence?

- Nutritional ergogenic aids lacking substantial scientific support
  - Ginseng and related herbal products
  - Carnitine
  - Coenzyme Q10
  - Inosine
  - Chromium picolinate
  - Medium chain triglycerides



# What is the evidence?

- New supplements lacking substantial scientific support
  - Androstenedione, DHEA and pro hormones
  - Hydroxy-methyl butyrate (HMB)
  - Colostrum