Let's Excel Together

CANADIAN ACADEMY OF SPORTS NUTRITION

Lecture 39:

Weight Loss Aids

Part 1

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Weight Loss Aid?

It is a substance or metabolic regulator that helps accelerate weight loss through one of the following mechanisms:

- **I) Decreasing Appetite (Anorectics or Anorexiants).**
- **II) Modulating Macronutrients (Accelerating metabolism of fats and carbohydrates).**
- **III) Inducing Thermogenesis.**
- **IV) Modulating Estrogen Metabolism.**

I) Appetite Suppressants (Anorectics):

- Irvingia gabonesis (African mango)
- Garcinia cambogia
- Green Coffee Bean Extract
- Glucomannan
- PGX
- Psyllium Husk
- Raspberry ketones
- Citrus Aurantium
- 5-Hydroxytryptophan (5-HTP)
- L – Tryptophan
- Hoodia

Irvingia gabonesis (African mango):

- **Irvingia gabonensis is a tree native to West Africa. The fruit is similar to a mango. Other names: Wild mango, Dika nut, Bush mango, and Ogbono**

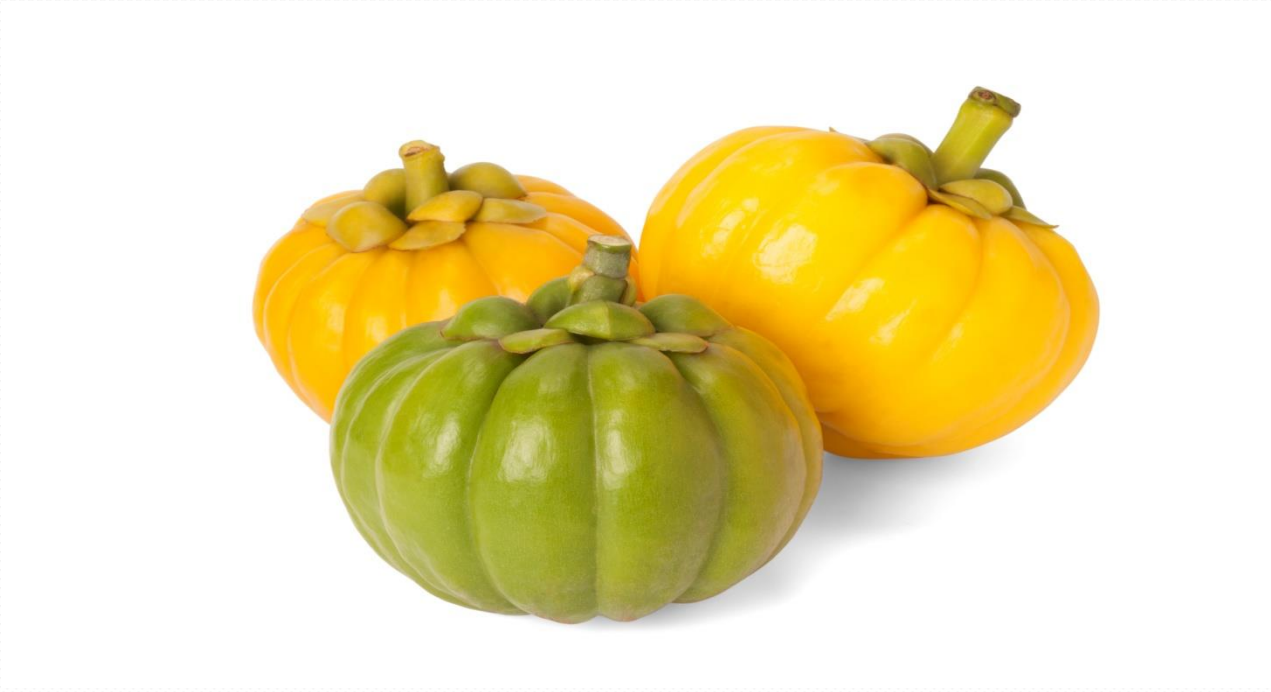
- **The extract of the seed :**
- **1) fights leptin insensitivity, decreasing appetite.**
- **2) improves function of Adiponectin.**
- **3) delays stomach emptying.**

- **It may also help reduce blood sugar and LDL cholesterol.**

- **Daily dose: 300 mg**

Garcinia Cambogia:

- **It is a tropical fruit.**
- **The active ingredient in the fruit is hydroxycitric acid (HCA).**



HCA decreases appetite by :

- **1) improving the function of leptin.**
- **2) raising serotonin level in the brain.**

- **HCA has drug interactions with statins, warfarin, pain killers and iron.**

- **Garcinia Cambogia Extract: 500 – 1000 mg a day.**

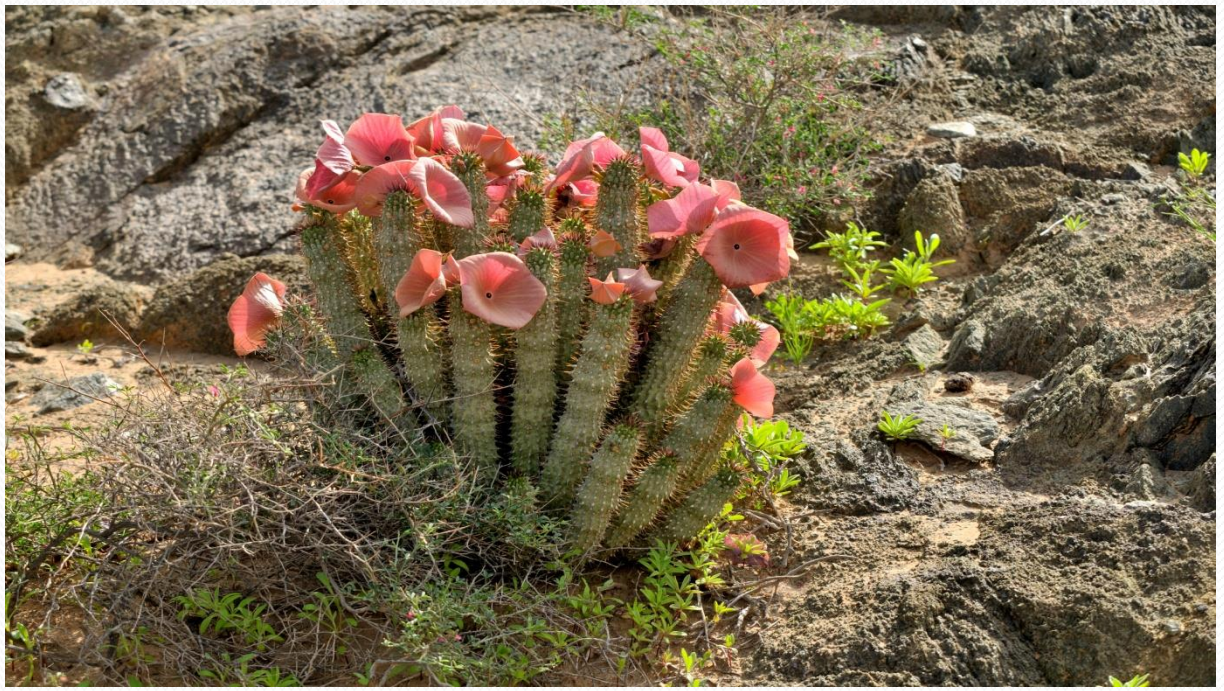
5-Hydroxytryptophan (5-HTP):

- **Increases serotonin level.**
- **Elevates mood.**
- **Reduces anxiety.**
- **Deceases appetite.**
- **Induces sleep.**

- **Dose: 50 – 100 mg a day at bedtime.**

Hoodia:

- **Hoodia gordonii is a plant native to South Africa and Namibia.**
- **The active ingredient is a steroidal glycoside named P57, which has appetite suppressing activity.**



II) Macronutrients Modulators:

1) Insulin Mimickers:

- Alpha – Lipoic Acid (ALA).
- Banaba Extract.
- Chromium Picolinate
- Vanadium.

2) Fat Blockers:

- Chitosan.

3) Fat Carriers:

- L – Carnitine.

4) Lipotropic Agents:

- Betaine (Trimethylglycine).
- Betaine hydrochloride
- Choline (Vitamin B18).
- Inositol (Vitamin B8).
- Methionine.

Chitosan:

- **Chitosan is a synthetically made soluble fiber.**
- **It is made from Chitin, which is extracted from crabs, lobsters, and shrimps.**
- **Chitosan inhibits the uptake of dietary fats by altering bile acid composition, interfering with the digestion of fats and increasing their excretion.**

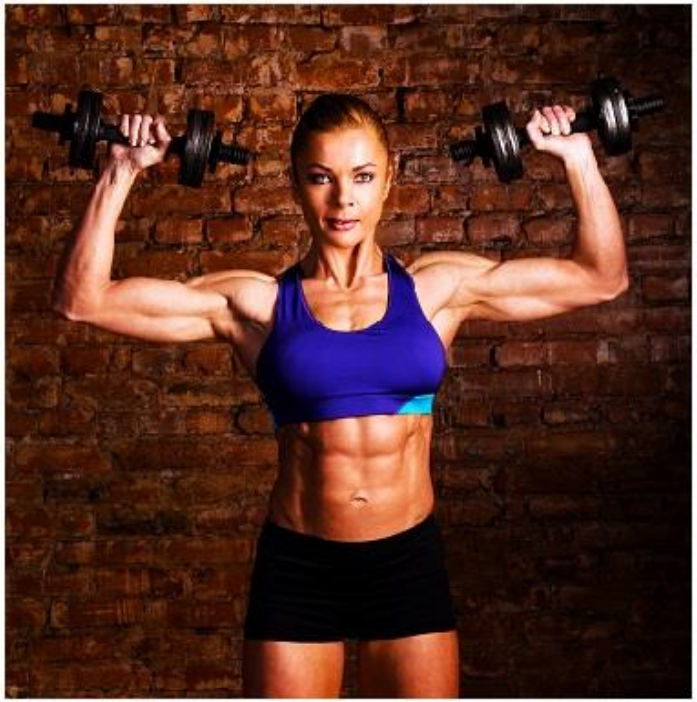
L – Carnitine:

- **L – Carnitine is made from the amino acids lysine and methionine.**
- **Also knows as vitamin B-T.**
- **Carnitine is made mainly in the liver and kidneys and then primarily stored in the skeletal muscles, heart, and brain.**
- **It is also found in sperms.**

Functions of L – Carnitine:

- L – Carnitine transports fatty acids across the cells and into mitochondria wherein they generate energy via citric acid cycle.

- 1) Lipid carrier.
- 2) Appetite suppressant.
- 3) Lipotropic agent.



Carnitine Deficiency:

- **Carnitine deficiency and any genetic disorders in the enzymes involved in the metabolism and proper function of carnitine lead to symptoms such as:**
- **muscle weakness especially during exercise.**
- **decreased blood sugar level.**
- **high blood ammonia level.**
- **increased propensity to myoglobinuria.**

Natural Sources:

- **The best food source of L – Carnitine is beef followed by pork and tempeh.**

- **A very small amount can be found in foods of plant origin. So, vegetarians tend to be low in carnitine.**

Athletic Benefits of L – Carnitine:

Potential benefits of L – Carnitine in athletes are:

- **a) Improves athletic endurance.**
- **b) May prevent from muscles breakdown after intense exercise or competition.**
- **c) Boosts energy level.**
- **d) Delays fatigue and tiredness.**

- **e) May improve oxygenation especially if combined with flavonoids.**
- **f) Alters body composition by decreasing body fat.**

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- **g) Useful in preparing for competitions wherein "muscle definition" is highly important.**

- **h) Promotes mental clarity and cognition especially if combined with Ginkgo Biloba.**

- **i) May support recovery from sports injuries.**

Non - Athletic Benefits of L – Carnitine:

L – Carnitine may be beneficial in the following conditions:

- **a) Weight management. L – Carnitine is considered a weight loss accelerator, and it also can suppress appetite.**
- **b) Anemia resulted from poor kidney function.**
- **c) Overdose and toxicity with valproic acid (a medication used in the treatment of epilepsy and bipolar disorder).**
- **d) Angina pectoris.**
- **e) Congestive heart failure (CHF).**

- f) Peripheral occlusive artery diseases.
- g) Chronic fatigue syndrome. (CFS).
- h) Attention deficit-hyperactivity disorder (ADHD).
- i) Male infertility.
- j) High cholesterol and triglyceride levels.
- k) Alcohol – induced fatty liver.
- l) Alzheimer`s disease.
- m) Hyperthyroidism.
- n) Liver cirrhosis.
- o) Intermittent claudication.
- p) Vegans and vegetarians.

Dosage:

- L – Carnitine is usually taken 2000 – 6000 mg per day.
- The function of L – Carnitine as a shuttle is mediated by an insulin spike.
- Thus, the best time to take by athletes is immediately after exercise and about 60 minutes before exercise or competition along with carbohydrates.

Side Effects:

- **Possible side effects are: nausea, vomiting, stomach upset, heartburn, diarrhea, stuffy nose, increased blood pressure, and slight fever.**

- **Consuming high doses for a long term might cause the urine, breath, and sweat to have a "fishy" odor.**

Interactions:

You should exercise caution when taking L – Carnitine in the following conditions:

- **a) Low function thyroid: L – Carnitine might decrease the effectiveness of thyroid hormones.**
- **b) Diabetes: it may increase effectiveness of anti – diabetic medications and cause hypoglycemia.**
- **c) Anorexia nervosa: it could suppress their appetite more.**

L – Carnitine is not recommended in the following conditions:

- **a) People who take blood thinners, such as warfarin or acenocoumarol. L – Carnitine might increase the possibility of bruise and bleeding.**
- **b) Seizures.**

Homework:

- **1) Describe how L – Carnitine could benefit athletes.**

- **2) Describe how garcinia cambogia could be useful in weight management and especially plateau.**