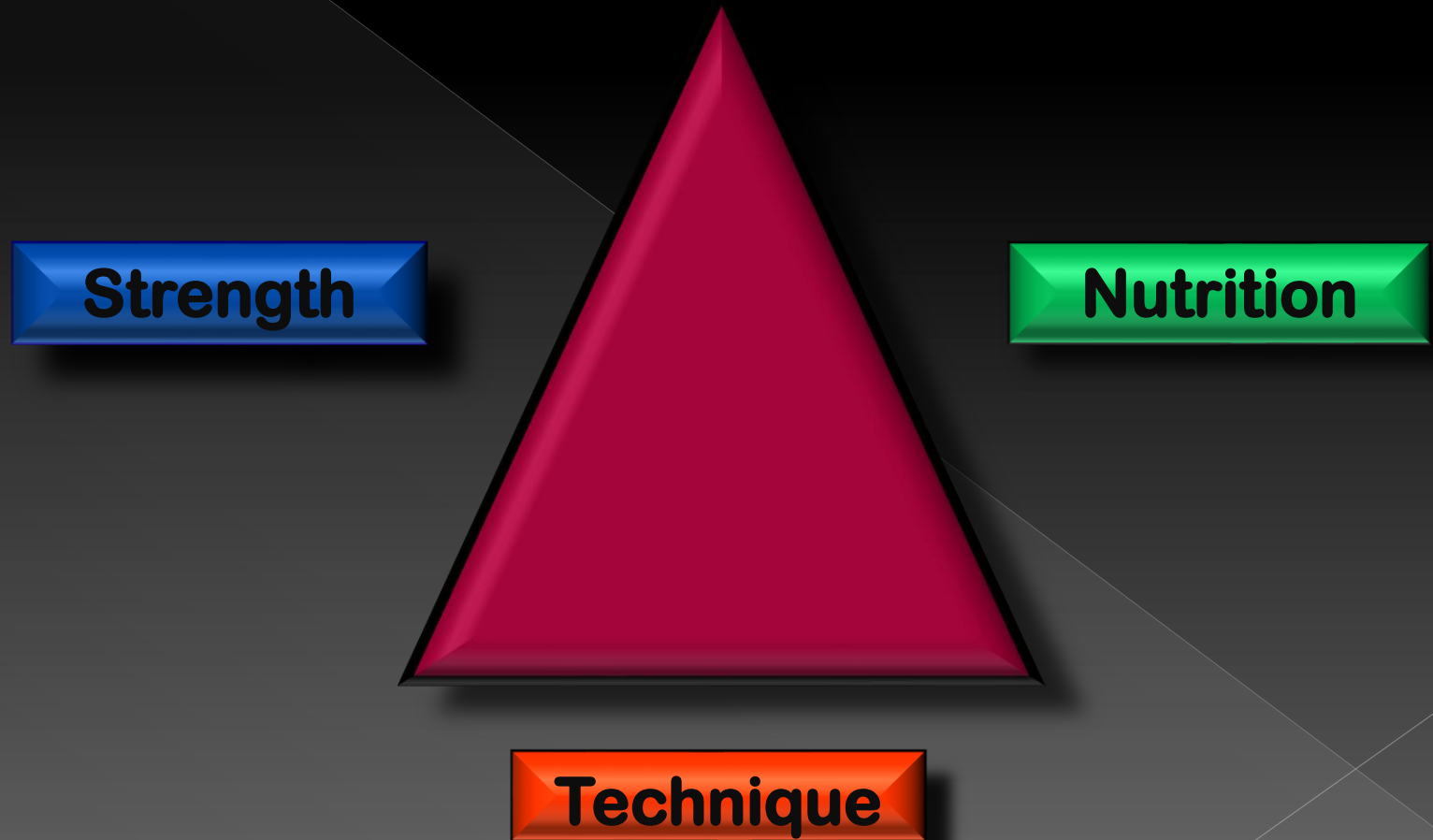


NATURAL ALTERNATIVES TO DOPING

MOTIVATIONAL FACTORS THAT MAKES THE ATHLETES MORE PRONE TO DOPING

- ⦿ Triumph desire
- ⦿ Performance and Training Improvements
- ⦿ Pain relief
- ⦿ Personal problems
- ⦿ Pleasure

SPORT PERFORMANCE



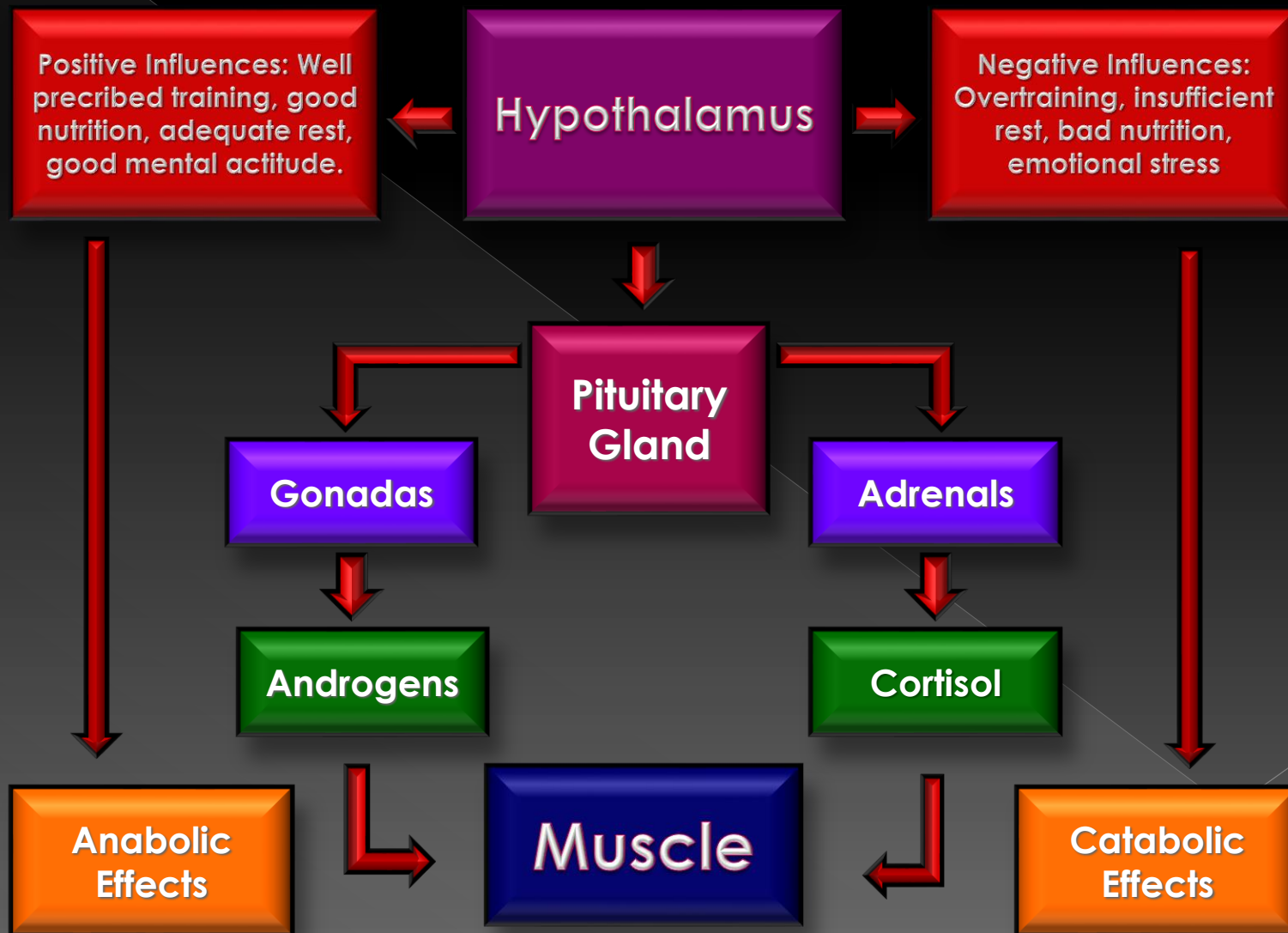
Strength

Nutrition

Technique

KEEPING THE ANABOLIC STATE

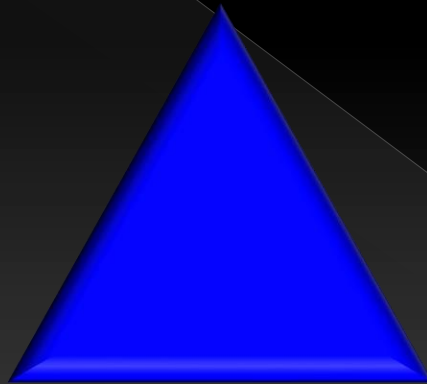
Increase positive influences and decrease the negative ones



SPORT NUTRITION

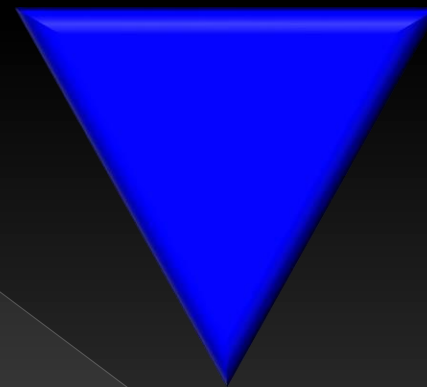
- Essential complement for high performance
- Natural alternative to doping
- Increment of athlete's active sport life
- Prevention and cure of injuries

DIETARY HABITS/CALORIC INTAKE DISTRIBUTION MODELS



Latin model

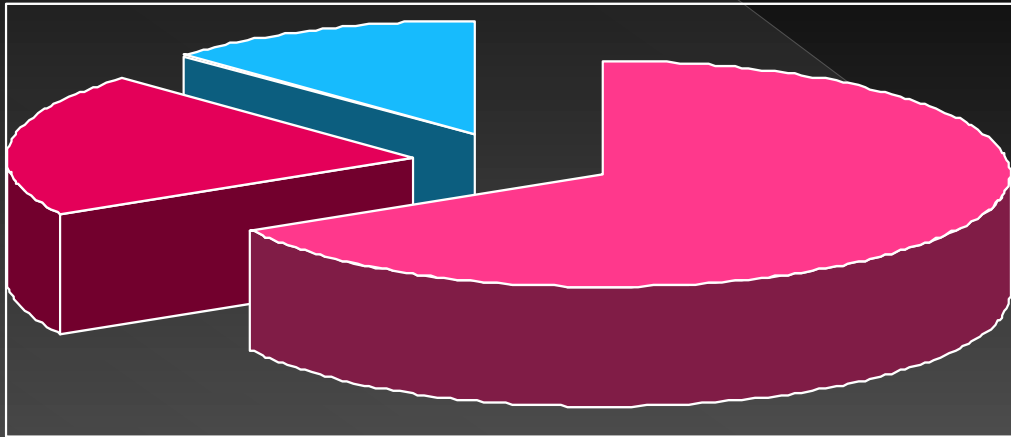
Small breakfast
Abundant dinner



Anglo-Saxon Model

Plentiful breakfast
Small dinner

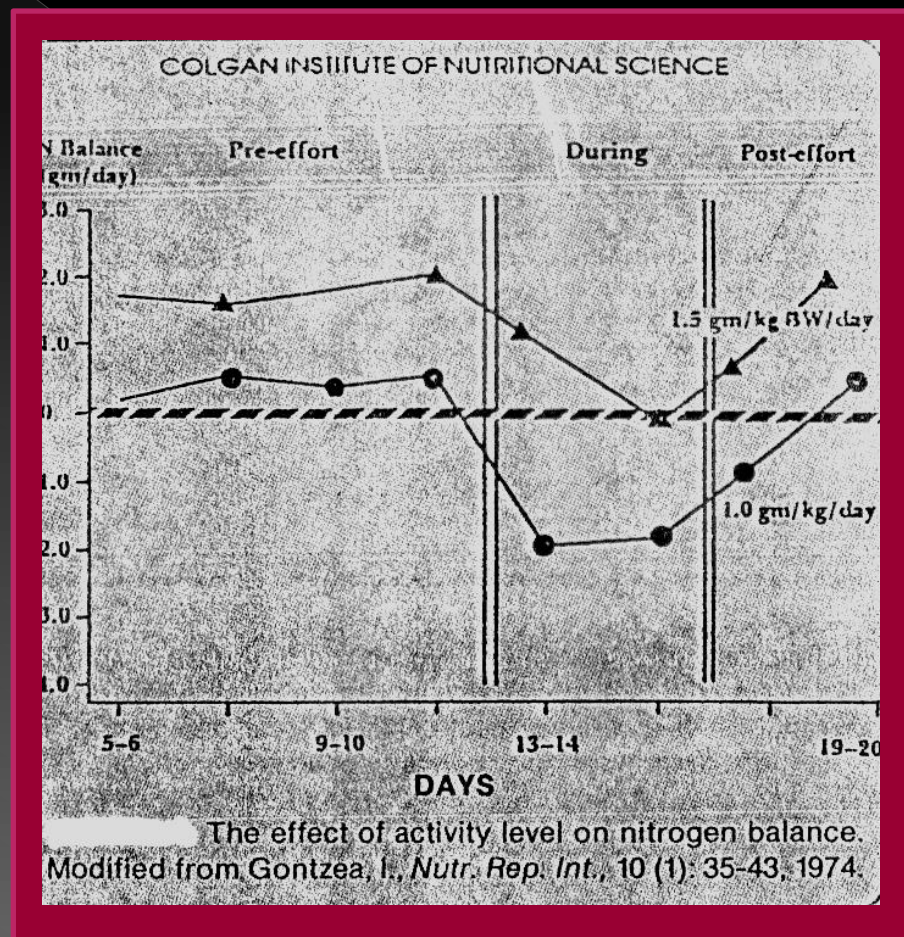
CALORIC DISTRIBUTION



- Carbohydrates 60-70%
- Proteins 15-25%
- Fat 10-15%

PROTEIN REQUIREMENTS

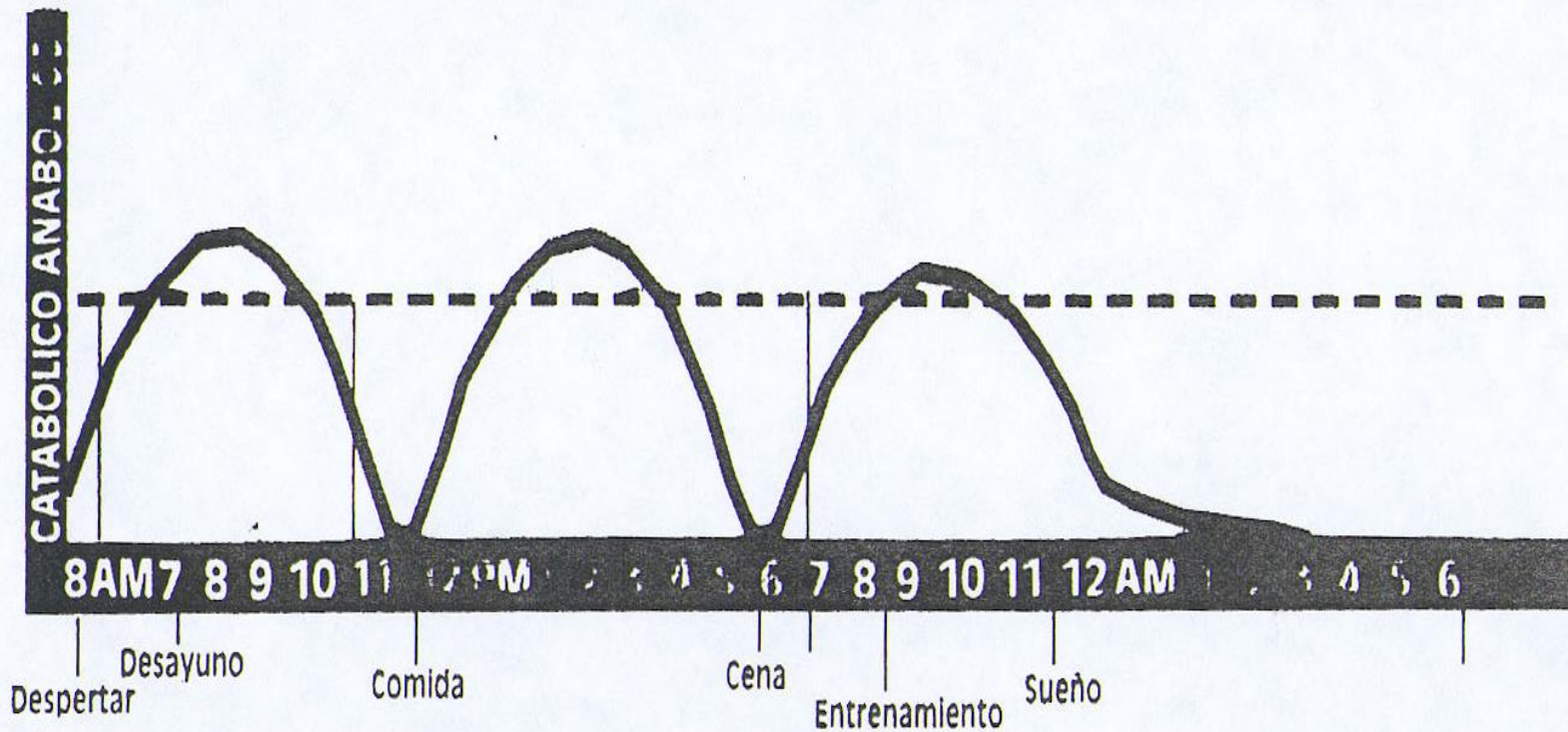
RDA: 0,75grs/Kg bodyweight/day



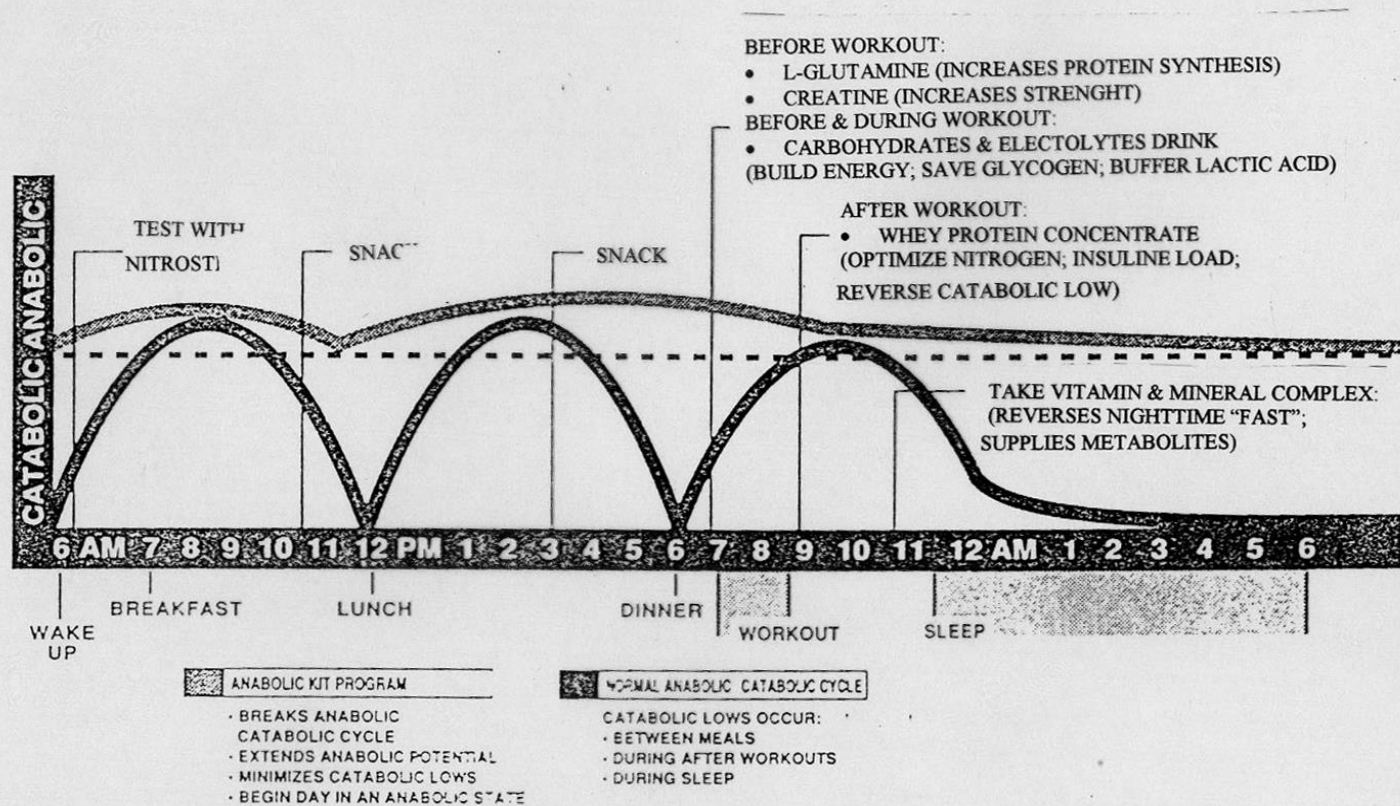
CALORIC DISTRIBUTION

30 %	<u>BREAKFAST:</u> HIGH FIBER BREAKFAST (HIGH-PROTEIN)
10 %	<u>MID MORNING:</u> AMINOACIDS INTAKE
30 %	<u>MEAL</u>
10 %	<u>MID AFTERNOON:</u> AMINOACIDS: BEFORE TRAINING COMPLEX CARBOHYDRATES: DURING TRAINING LIQUID PROTEINS: AFTER TRAINING
20 %	<u>DINNER:</u> HIGH IN COMPLEX CARBOHYDRATES

ANABOLIC/CATABOLIC CURVE



24H NATURAL ANABOLIC CURVE



BEFORE TRAINING

- **Protein Anabolism:**
 - > **L-GLUTAMINE or BCAA'S**
- **Energy Needs:**
 - > **CREATINE**
 - Three first days: 200 mg/Kg
 - Following days: 50-75 mg/Kg
 - > **CARBOHYDRATES and ELECTROLYTES DRINK**
 - Dilution 10%
 - 200 ml
- **Another Specific Supplements:**
 - > **INOSINE** (anaerobic energy)
 - > **VANADYL SULPHATE** (age)
 - > **CARNITINE** (overweight)

DURING TRAINING

- ◎ **To maintain Energy Level:**
 - > Short & Medium Lengthy efforts: **CARBOHYDRATES AND ELECTROLYTES DRINK**
 - Dilution: 10%
 - 200 ml by 30-45 minutes of training (accomodation climate)
 - > Explosive energy: **INOSINE**
 - > Long Lengthy efforts: **L-CARNITINE**
- ◎ **To maintain Electrolytes Levels: CARBOHYDRATES & ELECTROLYTES DRINK**
- ◎ **To maintain Free Aminoacids Levels: LIQUID AMINOACIDS**

AFTER TRAINING

- ◎ **Replenish Energy and Glucogen Levels:**
 - > **CARBOHYDRATES & ELECTROLYTES DRINK**
 - Dilution: 20%
 - 200 ml
 - Just intake at the end of training
- ◎ **Protein Anabolism:**
 - > **80-90% PROTEINS DRINK**
 - Dilution: 10-15%
 - 500 mg/Kg
 - 30 minutes after training

BEFORE SLEEP

◎ ENDS:

- > To stimulate GH Liberation
- > To increase Glycogen Levels (Energy)

◎ PRODUCTS:

- > **ARGININE** or **ARGININE/ORNITHINE** or **ARGININE/LYSINE** (sometimes can be added L-GLYCINE)
- > **MINERAL MIXTURE**

* **NOTE:** Dinner must be rich in complex carbohydrates

DOPING SUBSTANCES

- ◉ Stimulants
- ◉ Narcotic Analgesics
- ◉ Anabolic Steroids
- ◉ Beta-Blockers
- ◉ Diuretics
- ◉ Other:
 - > Alcohol
 - > Local Anaesthetics
 - > Corticosteroids
 - > GH Stimulatos
 - > Insulin
 - > HCG

NATURAL ALTERNATIVES TO DOPING

DOPING SUBSTANCE	NATURAL ALTERNATIVE
GH	Arginine, Ornithine, OKG, Glycine
Anabolic Steroids	Ferulic Acid, Creatine, Aminoacids
Insulin	Vanadyl Sulphate, Chromium Picolinate, Lipoic Acid
Amphetamines (appetite suppressers)	Garcinia Cambogia, Tirosine
Anti-inflammatories & Corticosteroids	Shark Cartilage
Diuretics	Rumex Acetosa

GH LIBERATION AGENTS

<i>STIMULANTS</i>	<i>SUPRESSORS</i>
SLEEP	IRREGULARITY OF THE CIRCADIAN CYCLE
DARKNESS	FREE FATTY ACIDS
TIREDDNESS	ALCOHOL & SIMPLE CARBOHYDRATES
PHYSICAL ACTIVITY (high intensity)	
HIGH AMINOACIDS BLOOD LEVELS	
COMPLEX CARBOHYDRATES AT DINNER	
NUTRITIONAL SUPPLEMENTS (ARGININE, ORNITHINE, OKG)	

ARGININE

- ◎ PROTEONEOGENIC AMINOACID
- ◎ FUNCTIONS:
 - > Increases GH liberation
 - > Increases Insuline Levels
 - > Improves Circulatory System
 - > Facilitates Ammonia Radicals Remove (desintoxication, energetic saving)
- ◎ DOSAGE:
 - > 25-50mg/Kg bodyweight/day at bedtime

CREATINE

- Full of Energy Metabolite
- Found in Muscle Cells
- **SYNTHESIS:**
 - > Natural Source
 - > Arginine, Methionine, Glycine -----→ Creatine
- **FUNCTIONS:**
 - > Creatine + ATP-→ Energy --→ > Protein Synthesis, > Muscle contractions, > Mineral & Electrolytes transport
 - > Decrease activity due to NH₃ synthesis
 - > Inhibit Lactic Acid Synthesis
 - > Save Muscle Glycogen
 - > Increase Strength, Prevent Fatigue, Improve Recuperation
- DOSE: 50MG/ Kg/DAY, first five days. 200mg/Kg/Day followings days. Dissolve in liquids. Caffeine decreases effects. Insulin increases absorption

STEROID-FREE COMPETITIVE BODYBUILDERS COMPARED WITH SEDENTARY CONTROLS AND WITH RUNNERS

	MALE	MALE	MALE
	BODYBUILDERS	SEDENTARY CONTROLS	RUNNERS
	(n = 16)	(n = 11)	(n = 14)
WEIGHT (kg)	76 +/- 6	88 +/- 16	68 +/- 4
% BODYFAT (Densitometry)	7.2 +/- 3.3	22.2 +/- 5.2	9.7 +/- 4.1
	FEMALE	FEMALE	FEMALE
	BODYBUILDERS	SEDENTARY CONTROLS	RUNNERS
	(n = 15)	(n = 11)	(n = 11)
WEIGHT (kg)	55 +/- 6	66 +/- 10	53 +/- 5
% BODYFAT (Densitometry)	14.4 +/- 2.4	25.0 +/- 5.3	16.9 +/- 3.0

BOYBUILDING, THE ANTI-OBESITY LIFESTYLE

