

IBCC Study Companion

Section 1: Nutrition

A. Macronutrients

1. Understand basic information on the three macronutrients: protein, carbohydrates, fats
 - a. Protein- effects for weight loss
 - o Various protein sources
 - o Plant-based protein sources
 - b. Carbohydrates-role of carbohydrates for performance and muscle recovery/ function.
 - o Protein sparing effect of Carbohydrates
 - o Glycogen loading in muscles---how is glycogen created? How many carbs are needed to be stored in muscles?
 - c. Fats-different types of fat. Health risks associated with overconsumption of certain types
 - d. Micronutrients and daily recommendations

B. Hormones

1. Understand hormones that impact appetite

- a. Leptin-what role does leptin have?
- b. Ghrelin-what role does ghrelin have?
 - o Ways to control ghrelin

C. Different Diet Models

- a. Ketogenic
- b. Carnivore
- c. Paleo
- d. Intermittent fasting
- e. Carb cycling
- f. Importance of caloric deficit for weight loss
- g. Reverse dieting

D. Water Practices

- a. Water loading and its effectiveness to create a short-term reduction in body mass
- b. Water depletion practices for bodybuilding competition

E. Nutrition Math

- a. How many calories equate to a lb of fat?
- b. Be able to calculate how much fat loss will occur given TDEE, deficit amount, and a timeframe
- c. Be able to calculate fat mass accrual based on TDEE and a given caloric surplus and timeframe

Section 2: Training

A. Training Volume/Frequency

- a. What is training volume?
 - o Optimizing training volume
- b. What is training frequency?
 - o Optimizing training frequency
- c. Goals of training for bodybuilding
- d. Repetition ranges-benefits and purpose
- e. Difference between compound and isolation exercises
 - o Examples of each

B. Muscle

- a. Hypertrophy-definition
 - o Time under tension and its effect on hypertrophy
 - o Benefits of time under tension
- b. Different muscle contractions: concentric, eccentric, isometric
- c. Different ways to cause muscle growth
 - o Progressive overload
 - o Metabolic stress
 - o Mechanical tension

C. Exercise

- a. Different workout intensifiers: drop sets, rest-pause, pyramid sets, supersets, etc
- b. Science on training to failure
- c. Recommended cardiovascular exercise guidelines
- d. Difference between cardiovascular exercises
 - o High intensity interval training, steady state, etc.

- e. How to do HIIT Training: benefits, example workouts
- f. Steady state cardio: benefits and uses
- g. Benefits of weight training in a caloric deficit
- h. Overtraining-dangers and symptoms
- i. How to modify a program due to injury.
- j. Warm up and stretching practices
- k. SMR uses and benefits

D. Body Fat

- a. Healthy body fat ranges for men and women:
- b. Body fat ranges for bodybuilding competition
- c. Dangers and effects of very low bodyfat

Section 3: Supplements

A. Optimal Dosages and Uses for the Following:

- a. Creatine
- b. Whey protein
- c. Beta alanine
- d. Citrulline
- e. L-Carnitine
- f. CLA
- g. Yohimbine
- h. Rauwolscine
- i. Betaine
- j. HMB
- k. Branch Chain Amino Acids
- l. Essential Amino acids
- m. Glutamine
- n. D-Aspartic Acid
- o. Turkesterone
- p. Ecdysterone
- q. Dandelion Root Extract

B. Optimal Dosages and Benefits for the Following---Particularly Impact on Biomarkers

- a. Tribulus
- b. Ashwagandha
- c. Vitamin D
- d. Citrus bergamot
- e. Niacin
- f. Multivitamin
- g. NAC
- h. Milk Thistle
- i. TUDCA
- j. Vitamin C, E,
- k. Omega 3,6,9
- l. Collagen
- m. Pro/prebiotics
- n. Digestive enzymes
- o. Psyllium husk fiber

C. Ingredients

- a. Ingredients that support fat loss
- b. Ingredients to look for in a pre-workout formula:

INTERNATIONAL BODYBUILDING COACHING CERTIFICATION
THE BODYBUILDING STANDARD

D. Health Supplements

1. Understand health supplements used to for the following:
 - a. Blood pressure
 - b. Cholesterol
 - c. Liver enzymes
 - d. Energy
 - e. Gut health

Section 4: Pharmacology

A. Esters

- a. Definition
- b. Different esters and their half-lives

- c. Types of esters: examples
 - o Acetate
 - o Propionate
 - o Phenyl propionate
 - o Enanthate
 - o Cypionate
 - o Undecanoate

B. Administration

- a. Oil based mediations
- b. Growth hormone and other peptides
- c. HCG
- d. Insulin

C. Ancillaries

- a. Clinical functions
- b. Uses in bodybuilding

D. Aromatase inhibitors

- a. Functions
- b. Effectiveness
- c. Aromasin (exemestane)
- d. Arimidex (anastrozole)
- e. Femoral (letrozole)

E. SERMS: Selective Estrogen Receptor Modulators

- a. Nolvadex (tamoxifen)
- b. Clomid
- c. Raloxifene

Prolactin control

- d. Pramipexole
- e. Cabergoline (Dostinex)

F. Blood/Bio Marker Improvement

- a. Effects of high blood pressure
- b. Effects of blood pressure medications: ARB, Beta Blockers, Diuretics, ACE inhibitors
- c. Effects of high cholesterol
- d. Effects of cholesterol medications: statins, ezetimibe
- e. Effects of high hemoglobin/red blood cell count
- f. How to lower high red blood cell count/hemoglobin

G. Steroids

- a. What are Anabolic Androgenic Steroids? [AAS]
- b. Commonalities between AAS
- c. Differences between compounds
- d. Aromatization-amount that is converted to estrogen
- e. Toxicity-why are orals more toxic for liver?
- f. Effects on endocrine system
- g. Effects on cholesterol, blood pressure, red blood cell count, heart structure, etc.
- h. Overall effects on performance
- i. Post cycle therapy- How to restart the body's natural processes after using exogenous hormones

H. Most Commonly Used Compounds and Information

- a. Testosterone
 - o Reasons it is clinically used
 - o Effects on SHBG and free testosterone
 - o Dosages administered in clinical settings
 - o Studies pertaining to the muscle building potential
 - o Side effects at clinical doses
 - o Side effect beyond clinical doses
 - o Aromatization

Aromatization rate, administration method, clinical uses, expected results, recreational doses of the following:

- a. Dianabol (Metandienone)
- b. Masteron (Drostanolone)
- c. Metenolone (Primobolan)
- d. Boldenone

- e. Halotestin (Fluoxymesterone)
- f. Winstrol (Stanozolol)
- g. Nandrolone (Deca)
- h. Trenbolone
- i. Oxandrolone (Anavar)
- j. Anadrol (Oxymethalone)

I. SARMS-Selective Androgen Receptor Modulators

- a. Definition
- b. Clinical usage
- c. General properties
- d. Recreational uses
- e. Most popular SARMS: clinical studies/effects & recreational does of each
 - o Ostarine:
 - o LGD (Ligandrol):
 - o RAD140:
 - o Cardarine
 - o Andarine
 - o MK-677 Ibutamoren
 - o YK-11

Mechanisms of action, clinical usage, usage in bodybuilding, recreational doses, side effects of the following:

- a. Growth hormone
- b. Insulin
- c. Diuretics-potassium sparing/depleting

Fat burning compounds: clinical usage, usage in bodybuilding and side effects of the following:

- a. Clenbuterol
- b. Cardarine
- c. Ephedrine
- d. T3

Section 5: Professionalism

- a. Different competitive bodybuilding organizations
- b. Drug tested organizations
- c. Different IFBB bodybuilding divisions
- d. Criteria for each IFBB division
- e.** Qualification process for NPC/IFBB

