

Micronutrition, Nutrient Timing And Supplementation – Finishing Touches Of The Nutrition Plan

SBS Academy: Unit 2
Module 2.5



Unit 2- Coaching For Physique Athletes

Learning Objectives

- Understand the role of micronutrition in a nutrition plan for physique competitors
- Be able to describe relevant aspects of nutrient timing for physique competitors
- Understand the role of supplementation in a nutrition plan for physique competitors



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Micronutrients – Vitamins and Minerals
 - Fat soluble and water soluble
 - Inadequate intake in popular diets
 - Zone, South Beach, Atkins, Ornish, DASH, LEARN
 - Deficiencies reported in traditional bodybuilders
 - Calcium, Zinc, Iron, Magnesium, Vitamin D
 - Consequences of deficiency
 - Preventing deficiency
 - Variety, fruit and vegetable intake, 1 serving/800kcal each



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Nutrient Timing - Weekly
 - Mitigating metabolic and hormonal adaptation
 - Diet breaks
 - Originally investigated for long term weight loss disruption
 - Physiological and psychological break
 - 1-2 weeks, 15-20% increase in kcals, 50% cardio reduction
 - 2nd week (if done) increase kcals 5% if weight loss occurred
 - If weight loss continues, increase kcals 5% and continue
 - Attempt higher calories and/or less cardio upon return to diet
 - Base on energy intake and weight change relationship



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Nutrient Timing – Within Week
 - Mitigating metabolic and hormonal adaptation
 - Intermittent Caloric Restriction (ICR)
 - 5/2, and alternate day fasting, in obese/overweight
 - Weight loss, LBM retention, metabolic outcomes
 - Refeeds, theoretical “mini diet breaks”
 - Set calories to maintenance, maintain fat and protein
 - 24hrs 1x/wk 1st third, 48hrs 1x/wk 2nd third
 - Final third 48hrs 1x/wk and 24hrs 1x/wk
 - Implement post diet break, natural deficit reduction



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Nutrient Timing – Within Day
 - Hunger control
 - Too frequent
 - Too infrequent
 - LBM Retention/Optimizing muscle mass accretion
 - Theoretical rationale for divided protein doses
 - MPS ≠ muscle growth over time, mechanistic vs applied
 - Meals per day, 3 to 6
 - Extremes <3 or >6 may degrade LBM retention/accretion, hunger control, when possible spread protein equally



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Nutrient Timing – Peri-Workout
 - Carbs pre/post?
 - We are not endurance athletes
 - Sometimes, may be warranted
 - 2/day training, fasted
 - Protein pre/post?
 - 0.4-0.5g/kg
 - No need to be immediate (<1hr)
 - Much less important than total protein intake for day



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	← MINIMAL IMPORTANCE	VARIABLE IMPORTANCE	MAXIMAL IMPORTANCE →
Carbohydrate	<ul style="list-style-type: none"> • Non-fasted, low-to-moderate-intensity resistance-training lasting 1 hr or less. 	<ul style="list-style-type: none"> • Training that occurs shortly after an overnight fast. • Exhaustive/continuous training that significantly exceeds 1 hour, especially training that approaches 2 hours. 	<ul style="list-style-type: none"> • Training involving more than one glycogen-depleting bout in a single day, for example a day in which legs are trained with moderate volume followed or preceded by a high intensity cardiovascular training session. • Training that significantly exceeds 2 hours; especially training that approaches or exceeds 3 hours.
Protein	<ul style="list-style-type: none"> • Timing in relation to cardiovascular training sessions. 	<ul style="list-style-type: none"> • Timing in relation to resistance training in a fed state (after a meal containing adequate protein). 	<ul style="list-style-type: none"> • Timing in relation to resistance training in a fasted state (occurring after a meal consumed more than 3 hours prior, especially approaching or exceeding 4 hours prior).
Supplements	<ul style="list-style-type: none"> • Specific timing of creatine, beta-alanine, or other such supplements used for chronic muscular adaptations rather than acute ergogenic effects. 		<ul style="list-style-type: none"> • Specific timing of CHO/electrolyte sports beverages, caffeine, or other such supplements used for acute ergogenic effects rather than chronic muscular adaptations.



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Supplementation
 - Education versus recommendations
 - Quality
 - Proprietary blends, USP, GMP, lab reports, contamination
 - Creatine monohydrate
 - 3-5g/day, no loading needed, only monohydrate
 - Caffeine
 - 2 effects, 5-6mg/kg to enhance performance, tolerance
 - Beta alanine
 - 4g/day, 60-240sec efforts, rarely needed



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Micronutrients, Nutrient Timing and Supplementation – Final Touches of a Diet

- Supplementation
 - Micronutrient supplementation
 - Multivitamins
 - Adequate intake difficult, potential health benefit
 - Low dose, targeted
 - Vitamin D
 - Some reports suggest as high as 77% of population deficient
 - Immune system, hormonal status, bone health, performance
 - 1000-2000iu/day safe intake and likely to improve status
 - Best case scenario, blood test, >40ng/ml



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