Proper nutrition plays an important role in optimizing performance and recovery from daily rigorous Special Operations training. PURPOSE: To evaluate food, fluid, and dietary supplement habits of SEAL Operators relative to training activities. METHODS: A total of 215 Operators (Age: 29.7±6.8 years; Mass: 85.9±6.8 kg) completed a detailed diet history including eating habits, food and fluid intake, and dietary supplement use. RESULTS: Fluids were consumed in 97% of Operators before physical training (PT), 65% during PT, and 66% following PT. Top beverage choices before PT were water (69%), sports drinks (13%), and water + pre-workout supplement (14%). During PT water (77%), sports drinks (13%) and water + pre-workout (10%) were consumed significantly more. Food was consumed by 73% of Operators before PT and 89% following PT (73% <1 hour, 23% 1-2h, 2% > 3h). Of those, 78% ate a snack or meal with carbohydrates (CHO) and protein (Pro), 15% with Pro only, and 6% with only CHO. Use of at least one dietary supplement was reported by 64% of the Operators (83% vitamin/mineral, 62% protein-energy drinks, 36% fish oils/antioxidants, 23% joint health, 17% nootropic, 6% creatine). Main reason for supplement use was to increase energy, feel more energized. CONCLUSION: Our findings suggest SEAL Operators practice adequate hydration before, during, and after PT. Water is the preferred beverage during PT. If PT lasts longer than 60 minutes, it may be more beneficial to consume fluids with CHO and electrolytes. Following PT, a substantial majority of Operators practice appropriate nutrition habits; specifically, 78% of Operators consume a snack or meal with carbohydrates (CHO) and protein (Pro). For optimal muscle recovery, food and or fluids containing both CHO and Pro should be consumed immediately following PT and contain both CHO and Pro. Ultimate goal is to identify the best choices and combinations of fluids, foods, and nutrient timing as a means to energize for and help recover from daily hard physical training.

METHODS

• Body composition was assessed with The BodPod Body Composition System (Cosmed, Chicago, IL) through air displacement plethysmography.
• Body mass (kg) and percent body fat (%BF) were used for an final analysis.

DIETARY ASSESSMENT

Subjects completed a detailed diet history with a food frequency questionnaire. The questionnaires were customized to address the pertinent dietary issues and food preferences of Navy SEAL Operators. The detailed diet history included questions pertaining to frequency of meals, meals eaten outside the home, caffeine and alcohol habits, and fluid intake before, during, and after physical training.

• Subjects responded to a comprehensive Dietary Supplement Survey to evaluate dietary supplement habits on base and when deployed. The Dietary Supplement Survey tool was developed by investigators to address the pertinent nutrient issues and dietary supplement usage of military personnel using data from our ongoing research with the Department of Defense and recommendations provided by the Committee on Dietary Supplement use by Military Personnel and the Institute of Medicine.

• Subjects completed questions regarding dietary supplement usage (frequency, dosage, duration, and administration), reasons for use, adverse reactions, and perceived benefits.

SUMMARY AND CONCLUSIONS

• Findings suggest SEAL Operators practice adequate hydration before, during, and after exercise.
• ~75% of Operators consume a post-training snack within 60 minutes following PT and it contains both CHO and Pro. For optimal muscle recovery, food and or fluids should be consumed immediately following PT and contain both CHO and Pro.
• SEALS Operators report taking at least one dietary supplement.
• Top reason for supplement use is to increase energy, feel energized.
• Future research should focus on examining the use of foods, fluids, and nutrient timing as a means to energize for and help recover from daily hard physical training

This work was supported by the Department of the Navy, Office of Naval Research (N00014-11-1-0929). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Office of Naval Research.