

Supplements for Military Personnel

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What are Supplements

- Supplements are manufactured products that are taken orally (by mouth) in a variety of forms, including tablet, liquid, gummies or powders.
- They aim to increase your intake of certain vitamins, minerals, herbs, amino acids or enzymes you normally get through food, through sources that are either extracted from food or made synthetically ('man-made').



Dietary Supplement Usage Statistics



- 48% of New Zealanders aged 15 years and over, take supplements.
- The most common supplements are fish oil and/or omega 3 and vitamins and/or minerals.
- About 30% of adults age 65 and older take 4 or more supplements of any kind.
- 53% of US Army soldiers reported use of supplements
- 72% of ADF pers reported use of supplements
- Sports supplements are more frequently consumed by males than females.

Military Personnel

- *‘Someone who serves in the armed forces’*
- Military duties can be physically and mentally taxing, involving rigorous training, prolonged physical activity, and stressful operational conditions.
- These demands increase the body's requirement for various nutrients, which can be difficult to meet through diet alone, especially in field conditions where access to fresh and diverse food is limited.

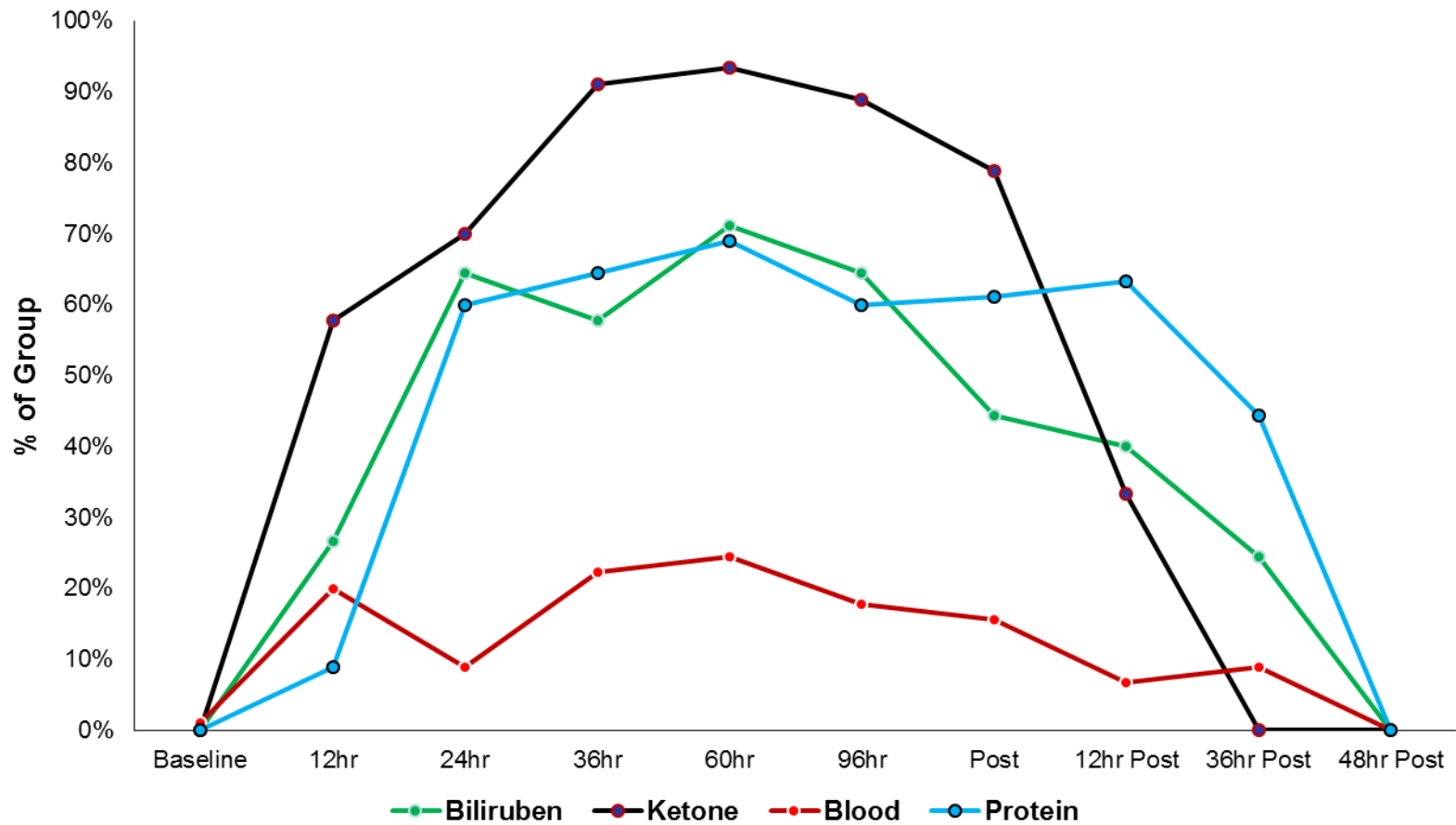


Key Nutritional Challenges



- **Increased Energy Expenditure:** High levels of physical activity significantly raise energy needs, necessitating higher intake of macronutrients like carbohydrates, proteins, and fats.
- **Micronutrient Requirements:** Vitamins and minerals play crucial roles in energy production, muscle function, and cognitive performance. Deficiencies can impair these functions and overall health.
- **Oxidative Stress:** Intense physical exertion and environmental stressors can increase oxidative stress, necessitating higher intake of antioxidants.

Urinary Biomarkers during Sustained Ops



The Benefits of Supplementation



- **Enhanced Performance:** Supplements can help improve physical performance by ensuring that military personnel have the necessary nutrients for energy production, muscle function, and recovery.
- **Improved Recovery:** Nutritional supplements can aid in faster recovery from intense physical activity, reducing the risk of injuries and ensuring personnel are ready for their next mission.
- **Mental Resilience:** Proper nutrition, supported by supplements when needed, can enhance cognitive function and mental resilience, which are vital for decision-making and coping with stress in challenging situations.

Common Supplements Used in the Military

- Protein Supplements
- Creatine
- Multivitamins and Minerals
- Iron



Supplements that *May* Benefit Health

- Vitamin B12, which can help keep nerve and blood cells healthy, make DNA and prevent anaemia.
- Folic acid, which can reduce birth defects when taken by pregnant women.
- Vitamin D, which can strengthen bones.
- Calcium, which can promote bone health.
- Vitamins C and E, which can prevent cell damage.
- Fish oil, which can support heart health.
- Vitamin A, which can slow down vision loss from age-related macular degeneration.
- Zinc, which can promote skin health and slow down vision loss from age-related macular degeneration.
- Melatonin, which can help counteract jet lag.

Sports / Performance Supplements



ON GOLD STANDARD 100% WHEY PROTEIN ISOLATE

ON GOLD STANDARD 100% WHEY PROTEIN ISOLATE

NITRO TECH WHEY ISOLATE LEAN

ISO100 PROTEIN

Various smaller product labels and packaging visible on the shelves in the background.

Back area of the store with a desk, two office chairs, and more shelves of products.

Stacks of smaller product containers on the right side of the aisle.

WHEY PROTEIN ISOLATE

NITRO TECH WHEY ISOLATE LEAN

Sports Supplements

- Protein powder most commonly used supplement
- Creatine
- Branch chain amino acids
- Pre-workout
- Post-workout

SUPPLEMENTS

WHEY PROTEIN



CONVENIENT PROTEIN

HELPS HIT PROTEIN
GOALS

BEST TO TAKE
BEFORE/DURING/AFTER
WORKOUTS

CASEIN PROTEIN



CONVENIENT PROTEIN

HELPS HIT PROTEIN
GOALS

BEST TO TAKE WHEN
GOING LONG PERIODS
WITHOUT FOOD

CREATINE



IMPROVES STRENGTH

IMPROVES ANAEROBIC
CAPACITY

ONLY NEED TO TAKE 3-
5G A DAY, ANY TIME OF
DAY

CAFFEINE



PROVIDES ENERGY

ENHANCES COGNITIVE
FUNCTION

GREAT TO TAKE
BEFORE YOU
WORKOUT

Protein Supplements

- *There was also good supportive evidence for long-term benefits of protein supplementation for gains in muscle mass and strength through accelerated rates of protein synthesis, as long as the training stimulus was of sufficient intensity, frequency, and duration.*

Tom M. McLellan. Protein Supplementation for Military Personnel: A Review of the Mechanisms and Performance Outcomes. The Journal of Nutrition. Published online September 11, 2013.

- *Post exercise protein supplementation may not only enhance muscle protein deposition but it also has significant potential to positively impact health, muscle soreness, and tissue hydration during prolonged intense exercise training, suggesting a potential therapeutic approach for the prevention of health problems in severely stressed exercising populations.*

Flakoll, P.J. et al. Postexercise protein supplementation improves health and muscle soreness during basic military training in marine recruits. J Appl Physiol 96: 951–956, 2004.

Banned Sports Supplements

- Anabolic and other steroids
- Dehydroepiandrosterone (DHEA)
- Diuretics
- Blood doping
- Ephedrine
- Human growth hormone (HGH)

Guidelines and Considerations



- While supplements can be beneficial, their use should be guided by healthcare professionals to ensure safety and efficacy.
- Overuse or inappropriate use of supplements can lead to adverse effects and nutrient imbalances.
- Military dietitians and medical officers can provide tailored advice based on individual needs, dietary intake, and specific operational demands.
- Safety: Ensure that supplements used are safe, effective, and free from contaminants.

Do you need supplements?



- The best way to get vitamins and minerals for optimal health and to reduce the risk of developing long-term conditions is to eat a wide variety of foods.
- Eating well from the main food groups each day makes sure you get the best possible spread of nutrients.
- Money spent on supplements is often better spent on healthy food.

Conclusion



Nutritional supplements can play a role in supporting the health and performance of military personnel. When used appropriately, they can help meet the increased nutritional demands of military life, enhance physical and mental performance, and aid in recovery. However, supplementation should be carefully approached, guided by professional advice and tailored to individual needs to ensure optimal benefits and safety. As the military continues to advance its understanding of nutrition and performance, the strategic use of supplements will remain a key component in maintaining the readiness and resilience of its personnel.

