



Nutrition for Performance

Fueling and Recovery Strategies

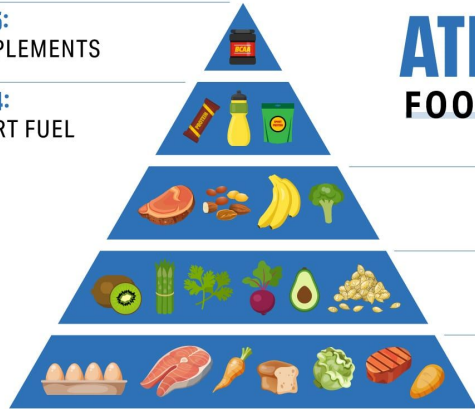
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Nutritional Factors

TIER 5:
SUPPLEMENTS

TIER 4:
SPORT FUEL



myfitnesspal

The **ATHLETE'S** FOOD PYRAMID

TIER 3:
NUTRIENT TIMING

TIER 2:
MICRONUTRIENTS

TIER 1:
HIGH-QUALITY
WHOLE FOODS

1. Calorie Balance
2. Macronutrients
3. Nutrient Timing
4. Food composition
5. Supplementation



Caloric Intake vs. Expenditure

Calories

- Measurement of energy
- Cornerstone of an athlete's diet

Energy Requirements

- Caloric need is highly specific to

YOU

Under-fueling

- Hunger and poor fueling strategies can have a severe negative impact on performance.
- As an athlete, you are not supposed to eat following general health guidelines.



MACRONUTRIENTS

Carbs

4 kcal / gram



Protein

4 kcal / gram

Fat

9 kcal / gram





Carbohydrates

- Carbohydrate consumption type and timing is highly dependent on the demands of your sport.
- Begin days prior to competing: maximizing blood glucose.

Day Before:

- Start with starchy, slow-digesting carb sources like:
 - potatoes and other veggies
 - whole grain pasta or bread
 - rice
 - quinoa
 - oats, etc.

Day Of:

- Amount of food consumed should decrease.
- Transition to faster digesting sources, with simple sugars like fruit, and hydration beverages **containing sugar**.



Fats

- Highest caloric value per gram of the three macronutrients.
- Backfilling calories!
- Easy and effective way to reduce a calorie deficit is to introduce more fat-dense foods into an athlete's diet.
- Ex: oils, nut butters, dairy products, fatty fish, nuts / seeds

One tbsp: Olive oil = 120 cal

Two tbsp: Peanut butter = 210 cal

One avocado = 300 cal





Protein

- Critical for muscle repair / remodeling following training or competition
- Consumption varies. General recommendation for athletes: **1-2 grams / kg body weight.**

150 lb athlete = 68 kg

Protein Range = 68-136 g per day

272-544 daily calories from protein

- Prioritize high-quality protein sources containing essential amino acids:

Eggs, red meat, chicken, dairy products, **whey protein supplementation.**



Protein Timing / Quality

25 GRAMS OF PROTEIN

@MARCINEVIN



1 Cup
Cottage Cheese



1 - 1 1/4 Cup
Greek Yogurt



1 Scoop
Protein Powder



4
Large Eggs



1 Cup
Liquid Egg Whites



3 oz
Cooked
Chicken Breast



3.5 oz
Deli Turkey



3 oz
Cooked 99% Lean
Ground Turkey



3 oz
Cooked 95% Lean
Ground Beef



3.5 oz
Roasted
Pork Tenderloin



4 oz
Grilled Salmon



4 oz
Canned Fish

When ?

Prioritize post-training or post-competition.

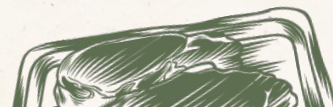
Impact on anabolism (muscle and tissue building / repair)

Aim for 25-30g every 3-4 hours

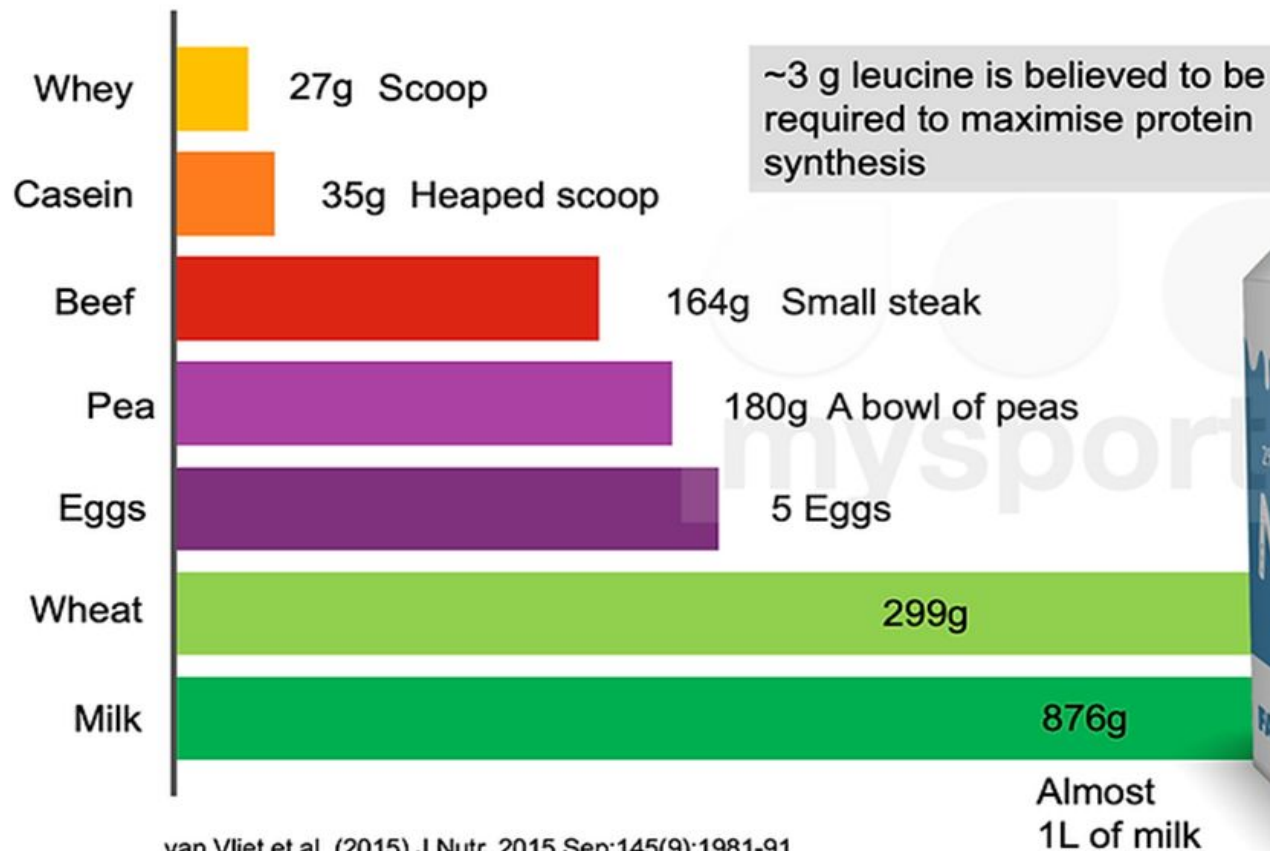
High Quality Protein

Protein sources that contain essential amino acids (specifically leucine) are the most effective for building muscle and recovering.

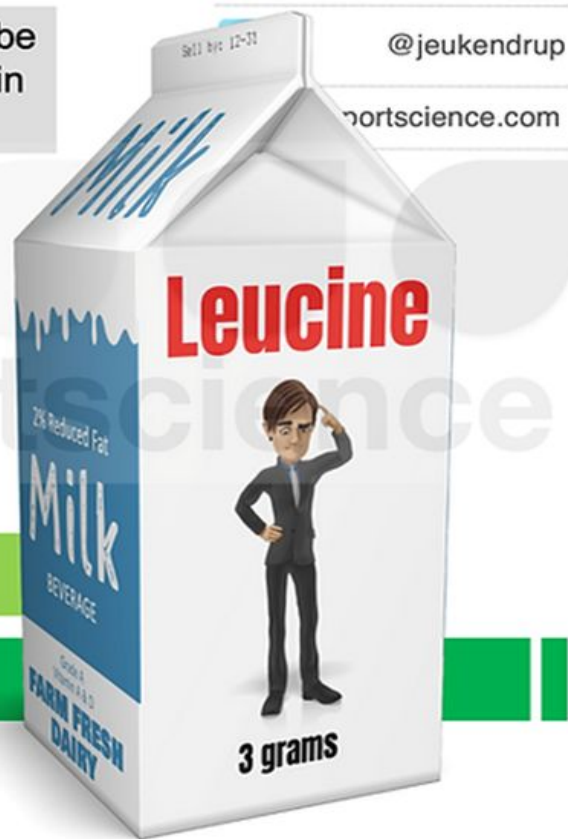
3g leucine to maximize muscle protein synthesis



Amount of food to obtain 3g leucine



van Vliet et al. (2015) J Nutr. 2015 Sep;145(9):1981-91



Dehydration

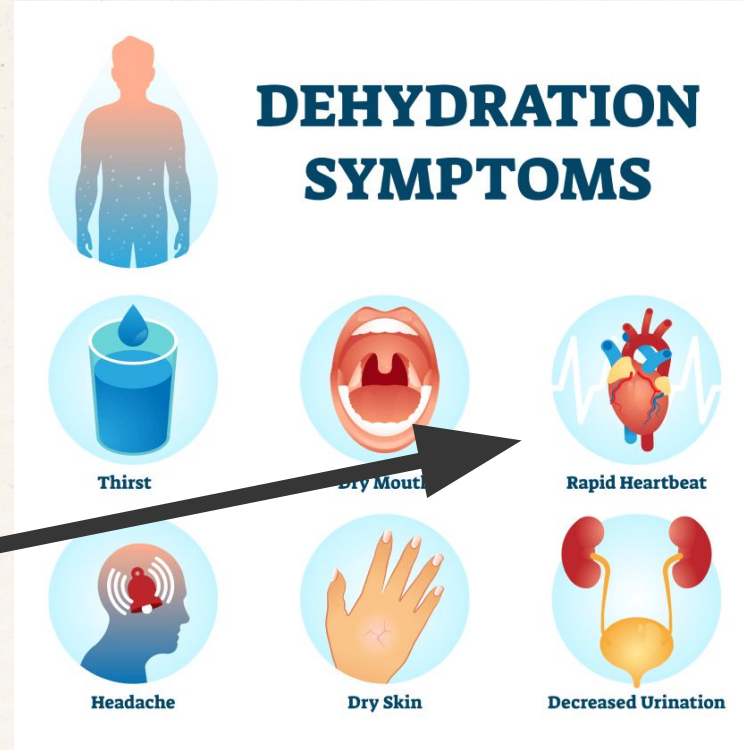
Performance Effects

- Huge performance deficits when athletes lose 2% + bodyweight in water

150 lbs athlete = 3lbs

- Losing water weight = decreased blood volume

- Decreased blood volume causes the heart to work significantly harder to deliver oxygenated blood to working muscles





Hydration

- Proper hydration requires athletes to consume water or electrolyte beverages several hours before competing.
- During competition: Consume a minimum of 10 oz of fluid every 20 minutes even if they do not feel thirsty.





Pre-competition meal

- Goals:
Keep hunger at bay

Maintain hydration

Avoid cramping / GI distress

Focus: Simple sugars

Avoid: High Fat, High Fiber





Post-competition meal

- Goals:
 - Replenish glycogen (Carbs)
 - Provide nutrients for muscle building and recovery
 - Replenish energy (maintain calorie balance)

Focus: High quality protein and simple sugars

