




TACTICAL ATHLETE NUTRITION GUIDANCE:

HYDRATION

SUMMARY

-  **Why Hydration Matters:** Supports performance, thermoregulation, and cardiovascular function; replaces fluid losses from sweat, respiration, urine, and digestion.
-  **Dehydration Effects:** >2% body weight loss impairs cognitive/aerobic performance; 3–5% loss affects anaerobic performance, skill, and coordination.
-  **Firefighter Considerations:** PPE increases heat accumulation; monitor body mass, avoid relying on thirst, and consume 150% of lost body mass post-exercise to rehydrate.

WHY HYDRATION MATTERS

- Supports performance, thermoregulation, and cardiovascular function
- Replaces daily fluid losses from sweat, respiration, urine, and digestion

EFFECTS OF DEHYDRATION

- **>2% body weight loss:** Reduced cognitive and aerobic performance (especially in heat)
- **3–5% loss:** Impaired anaerobic performance, skill, and coordination

SYMPTOMS OF DEHYDRATION:

- | | | |
|------------|-------------|-----------|
| • Thirsty | • Dry mouth | • Fatigue |
| • Headache | • Dry skin | • Dizzy |



GENERAL RECOMMENDATIONS¹

Your body weight in pounds divided by 2 = the minimum number of ounces of fluids you need per day (This does not include the amount of exercise you do or the climate you are in.)

- Example: 120 pounds ÷ 2 = 60 ounces of water per day
- Half Gallon = 64 ounces
- 1 Gallon = 128 ounces
- For most people, 1 large gulp = 1 ounce

WITH EXERCISE, ADD:

- 16 ounces - 2 hours before exercise
- 4-8 ounces - 10 minutes prior to exercise
- 4-8 ounces - every 20 minutes during
- 16-24 ounces- after exercise
- For exercise lasting longer than 60 minutes, use sports drinks for hydration, glucose and electrolytes to improve endurance performance (Powerade, Gatorade).

GOAL: Limit fluid loss to <2% of body weight

SPECIAL CONSIDERATIONS FOR HYDRATION AMONG FIREFIGHTERS²

- PPE significantly limits the heat dissipation that occurs from sweat, resulting in increased heat accumulation and cardiovascular strain.
- This combination provides a continual physiological cue for sweat production that can ultimately lead to dehydration.
- Firefighters are advised against using thirst as an indicator of hydration status, and they are further advised to regularly assess their body mass before and after training as well as active fire suppression activities.
- After dehydrating physical exertion, consuming a volume of water that is equivalent to 150% of the lost body mass is advised.

RESOURCES:

1. [Tactical Athlete Nutrition Guidance](#)

2. Gonzalez DE, McAllister MJ, Waldman HS, Ferrando AA, Joyce J, Barringer ND, Dawes JJ, Kieffer AJ, Harvey T, Kerksick CM, Stout JR, Ziegenfuss TN, Zapp A, Tartar JL, Heilesen JL, VanDusseldorp TA, Kalman DS, Campbell BI, Antonio J, Kreider RB. International society of sports nutrition position stand: tactical athlete nutrition. J Int Soc Sports Nutr. 2022 Jun 23;19(1):267-315. doi: 10.1080/15502783.2022.2086017. PMID: 35813846; PMCID: PMC9261739.