

HYDRATE TO OPERATE



Why Hydration Matters- Especially in July

July brings extreme heat, longer daylight hours, and an increased risk of heat-related illness—especially for firefighters in full turnout gear. **Proper hydration isn't just about comfort. It's a critical part of operational readiness, mental clarity, physical endurance, and safety on the fireground.** Dehydration can increase your risk of heat stress, muscle cramps, dizziness, and impaired decision-making. This month, we will cover the science behind how much you sweat, signs of dehydration, options outside of just water, and tips for staying hydrated and performing at your best during these hotter months.

Science of Sweat

Firefighters can lose 1 to 2.5 liters of sweat per hour during high-intensity activity in full PPE. In extreme conditions, this number may be much higher. Rule of thumb: for every pound of sweat lost, you need to drink 16 to 24 ounces of fluid to rehydrate. You can find this out by weighing yourself at the start and the end of your shift. Or at the start of your shift and immediately following a call which exposed you to high heat and/or high intensity exercise. During periods of intense sweating, just water isn't going to cut it. Adding in an Oral Rehydration Solution (ORS)- commonly referred to as "electrolytes" is necessary to replenish the electrolytes lost in your sweat. More on this in a separate section of this newsletter.

Hydrate Like Your Life Depends On It- Because It Does

Staying hydrated isn't just healthy- it's operationally essential. Regular water breaks, electrolyte balance, and awareness can all make a difference. Check out the attached hydration lineup drill for more information and tips you can apply while on shift.

Hydration Recommendations on Shift

Daily goal: At least half your body weight in ounces of water per day in milder conditions. In summer or on shift, this can increase to 100-150 ounces (3-4.5 liters) or more.

Pre-Hydrate: Drink 16-20 ounces of water on your drive into work or during line up. Most first responders arrive to work already dehydrated, this gets you ahead of the curve.

During Activity: Drink 7-10 ounces every 10-20 minutes while working or training. In full gear or extreme heat, aim for 1 quart per hour.

Post-Rehydration: Continue hydrating throughout the day. Add an Oral Rehydration Solution (ORS) such as DripDrop or Liquid IV. Adding electrolytes helps to replace the sodium, potassium, and magnesium lost in sweat.

Signs of Dehydration

- Dry mouth or thick saliva.
- Fatigue or sluggishness.
- Headache.
- Dark urine*.
- Dizziness or confusion.
- Elevated heart rate without exertion.

**See attached lineup drill for a urine chart. When it becomes too dark, this can be a sign of rhabdomyolysis- a medical emergency.*

If you're noticing these signs on the fireground, in training, at the station, or on another call, you're already behind on hydration- act quickly!



Dr. Kelsey Loftus

*Certified Athletic Trainer
MCFR Health & Injury Prevention*

Did you know that you have someone working within MCFRS to provide you with quality injury care, injury prevention, and functional assessments to lengthen your time on the floor and keep you out of FROMS?

IMPORTANT ANNOUNCEMENT!

Join us for the first ever MCFRS Health and Performance Workshop held on July 14, 15, and 16! Attend off-going from your shift for a morning full of key topics to keep you operating at your best — including sleep strategies, injury prevention, nutrition, and physical fitness tips for peak performance on the job and at home.

Attendance is highly encouraged, and spots are filling up. **Come ready to learn, ask questions, and invest in your health and longevity on the front lines. Scan or click the QR code below to register!**



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MCFRS HEALTH & INJURY
PREVENTION

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Hydration Lineup Drill

Your performance, focus, and safety depend on staying hydrated—especially under heat, pressure, and heavy gear. This drill is more than a reminder; it's a commitment to being ready for anything. Hydrate like your life—and your crew's—depends on it. Because it does.

MYTHS & MISCONCEPTIONS

“THIRST = DEHYDRATION”

Thirst is a great sign that you are dehydrated, but when you start to feel thirsty, it's already too late. Stay ahead of the thirst to stay properly hydrated.

“I'M NOT SWEATING, SO I'M NOT LOSING FLUIDS”

You lose fluids through breathing and even at rest. In hot environments or when wearing PPE, sweat can evaporate quickly. Even just standing on a gas leak in full PPE outdoors without doing any physical work can cause you to lose a substantial amount of fluids.

“WATER ALONE IS ENOUGH”

Not always. Prolonged activity, especially in high temperature environments, may require electrolyte replacement.

“COFFEE MAKES YOU DEHYDRATED”

Coffee itself doesn't make you dehydrated, but caffeine is a diuretic when consumed in high amounts. Meaning you lose more fluids through urine. Coffee, energy drinks, and teas aren't ideal for staying properly hydrated while at work. Even if they contain a certain amount of water.

“I'M SLUGGISH BECAUSE I NEED MORE CAFFEINE”

Dehydration can mimic stress or low energy symptoms like headaches, irritability, and fatigue. Instead of reaching for your 3rd or 4th caffeinated beverage, throw in a stick of Liquid IV or DripDrop when you typically hit your slump on shift.

“FULL SUGAR ELECTROLYTE STICKS ARE BAD”

There's a common belief that sugar in electrolyte drinks is unhealthy—but in the context of Oral Rehydration Supplements (ORS), it actually plays a critical role in hydration. Sugar (specifically glucose) works with sodium to boost water absorption in the small intestine. Without a small amount of sugar, plain water and electrolytes wouldn't be absorbed as effectively during dehydration. It's not about sweetness—it's about function. Too much sugar can slow absorption and worsen dehydration, but the right amount helps save lives in medical and high-stress situations. If you're not at work, reach for your sugar-free options because you don't need to replenish electrolytes as quickly as you do while you're on shift- when it's unknown when the next high temperature, heavy call will come out.

YOUR HYDRATION GO-BAG

Keep stock of these items for quick hydration while at work:

- **Electrolyte packets or tablets** (Liquid IV, Nuun, DripDrop, LMNT)- make sure it has sugar in it for at work for quick absorption!
- **Coconut water or boxed juice.**
- **Spare reusable water bottle or water bladder.**
- **Cooling towel** (Frogg Togg or similar).
- **Neck gaiter or cool wrap** (can be soaked in water).
- **Water-rich fruit cups** (in 100% juice, not syrup).
- **Applesauce pouches.**
- **Pre-cut watermelon or oranges in cooler bags.**



DEHYDRATION SIGNS & SYMPTOMS

Dry mouth or sticky saliva

Thirst (already a delayed signal)

Headache or lightheadedness

Fatigue or low energy

Dark yellow urine or reduced urination

Difficulty concentrating or slowed reaction time

Mood changes- irritability, confusion, or anxiety

AM I HYDRATED?

Urine Color Chart

1		
2		If your urine matches the colors 1, 2, or 3, you are properly hydrated.
3		Continue to consume fluids at the recommended amounts.
4		If your urine color is below the RED line, you are
5		DEHYDRATED and at risk for cramping and/or a heat illness!!
6		YOU NEED TO DRINK MORE WATER!
7		
8		

Want more information?

CONTACT YOUR ATC!



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