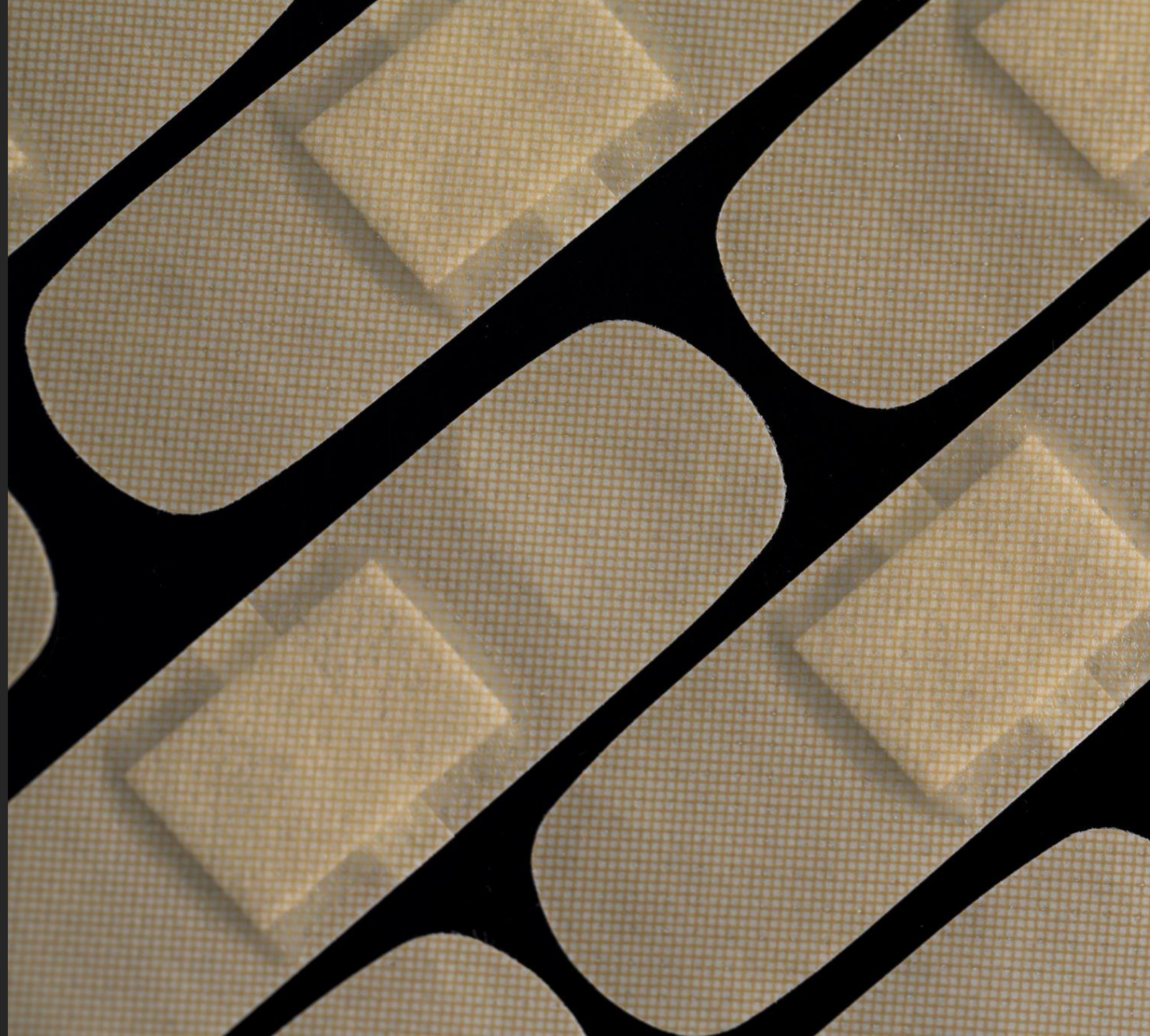
Tactical Advantages of preventative ORS vs IV

ORAL REHYDRATION SOLUTION, DEVELOPED BY THE WORLD HEALTH ORGANIZATION IN THE 1960'S

HAILED AS "POTENTIALLY THE MOST IMPORTANT MEDICAL ADVANCE OF THE 20TH CENTURY" BY THE LANCET BRITISH MEDICAL JOURNAL.



4 Sticks per man per day

Multiple Special Operations and conventional units have already implemented a preventative protocol of 4 sticks per man per day. This protocol is used during high exertional or high temperature days. This has reduced the heat injuries by over 80 percent while increasing performance, both physically, and cognitively while improving recovery for follow on missions and training. With the advantage of reducing the size, space and weight that carrying an IV and required equipment would cause. Adding the advantage of it being equipment common to all.

Administering Fluid via Oral route is the medical “best practice” when possible

- Oral absorption of fluids is the natural way, and allows the body to absorb via natural digestion.

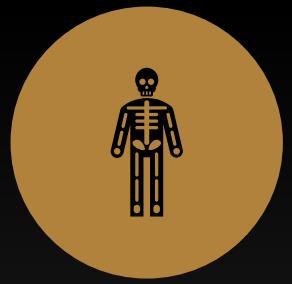
-IV’s require advanced medical training and equipment that is heavy, expensive ($32 ea), and space consuming. It is invasive and exposes the soldier to the risk of infection, and multiple complications (infiltration, hematoma, air embolism, phlebitis, and extravascular drug administration) many times when it could have been prevented all together.

-In the case of Dripdrop ORS this absorption is at the cellular level and has a rapid increase in plasma volume. Using multiple active and passive transport systems, including the sodium-glucose co-transport system, DRIPDROP ORS provides rapid and lasting hydration through optimal absorption (via its low osmolarity) and deep cellular penetration (due to clinical levels of all essential electrolytes). This is the most rapid form of oral rehydration. Studies have shown absorption up to 3 times that of water in plasma volume (1).

-DRIPDROP ORS allows rapid rehydration at the cellular level that is processed in the liver using sodium citrate producing an approximate 20 percent buffering effect of lactic acid or lactate from exertion or disease. This causes an immediate increase in performance and recovery. IV’s and many rehydration solutions generally used in the treatment of exertional heat injuries use sodium chloride, which at high doses may be harmful to the kidneys. Sodium Citrate has not been shown to be harmful to the kidneys. (2)

(1) Marlin D.J. NCBI et al 1998, Convertino V.A. et al MedSports 1996, (2) Sacrementis J et al British Journal of Sports Medicine vol 37, issue 6.

Tactical Advantages of preventative ORS vs IV. Giving the ability to administer fluid and electrolyte therapy back to the first responder, and individual.



-DRIPDROP ORS should be administered preventively by the first responder or ideally the individual themselves before/during periods of high exertion or training in extreme temperatures. Because DRIPDROP ORS is introduced through the natural physiologic pathways, it provides ideal rehydration by taking advantage of the bodies own mechanisms of electrolyte, volume and heat regulation, while improving performance and lethality on the battlefield or in training.

-Iv's are given directly into the vascular system and then have up to 40% third spaced initially into the fatty spaces (interstitial spaces) in the bodies attempt to restore homeostasis. This negates the total amount of fluid that is effectively helping the individual.

-It is an enormous advantage to give the ability to self administer fluid and electrolyte therapy back to the individual or first responder. By using DRIPDROP ORS in a preventative protocol we can keep our fighting men and women in the fight and increase their lethality both physically and mentally. At the same time it allows medical professionals to focus both time and resources on treatment of injuries that are not preventable.

-DRIPDROP ORS also contains zinc, a preventative for infectious diarrhea, travelers diarrhea, and used in its treatment, shortening its duration by up to 25%. Also vitamin C for overall health of the immune system, and magnesium which is essential to muscle performance/recovery and aids in protecting the heart (cardiac muscle) in times of severe stress.

ORS Evolution, use and budgeting

01

Oral Rehyrdration Solution has saved over 5 million lives and has over 50 years of science and usage proving its effectiveness. Developed by the World Health Organization in the 1960's, and hailed as "potentially the most important medical advance of the 20th century" by the Lancet British Medical Journal.

02

Though widely distributed by the military and used to great effectiveness in the treatment of heat and dehydration related injuries, the WHO ORS has had significant issues with compliance due to its poor taste. DripDrop ORS was created by Dr. Eduardo Dolhun in 2008 to save lives specifically through improved taste and compliance, while maintaining its low osmolarity.

03

Units that have implemented the preventative ORS protocol have seen the increase in unused IV's and accompanying equipment. This has allowed them to reduce the orders, averaging aprox $32 per IV. A starter kit is $29. By reducing waste these units repurposed the same funds to ORS allowing them to treat preventively.

Rationale for Oral Rehydration Solution to support training.

To reduce the incidence of heat stress and to support the hydration and energy demands of military training and environmental extremes, we request adding the following to the preventative medical, and treatment protocol.

DripDrop ORS, 21 gram stick- Lemon Flavor (NSN: 6505-01-646-2692)

DripDrop ORS, 21 gram stick- Berry Flavor (NSN: 6505-01-646-2701)

DripDrop ORS, 21 gram stick- Watermelon Flavor (NSN: 6505-01-671-1844)

DripDrop ORS, container (makes 2.5 gallons) Berry Flavor (NSN: 6505-01-671-1870)

DripDrop ORS, container (makes 2.5 gallons) Lemon Flavor (NSN: 6505-01-671-1859)

Rationale for Oral Rehydration Solution (ORS) cont.

The requested ORS products meet the Medical and Human Performance Nutrition guidelines listed below:

a) Contain adequate electrolytes

Sodium: >1,000 g/l

Potassium: >500 g/l

Amounts greater than available in commercial sports drinks, such as Gatorade and PowerAde, which contain approximately 400 g/l and 100 g/l of sodium and potassium, respectively.

b) Contain adequate amounts of carbohydrate to support high intensity training:

Greater than 30 g/l (3% solution)

c) Low Osmolarity: (mOsm/L) 235

Allowing rapid absorption via the sodium-glucose co transport system

Rationale cont.

d) Contains natural ingredients (no artificial flavors or colors)

e) Are available in single-serving packets

f) Are available in ready to mix containers for hydration coolers

g) Are palatable

h) Are shelf stable

Further, Oral Rehydration Solutions, such as DripDrop ORS, have been shown to prevent and treat heat stress and illness. Heat stress may include: exertional heat stroke, non exertional heat stroke, heat exhaustion, heat cramps, and heat rash.

Tactical Advantages of preventative ORS vs IV

-In summary, it is clear that it is far superior to prevent heat and dehydration injuries using DRIPDROP ORS. At the same time increasing health, performance and recovery of our military, than to treat them after using an IV.

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